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Observations
ON
PROPHYLACTIC INOCULATION AGAINST PNEUMOCOCCUS INFECTIONS,
AND ON THE RESULTS WHICH HAVE BEEN ACHIEVED BY IT.[1]

BY SIR ALMROTH E. WRIGHT, M.D., F.R.S.,
IN CONJUNCTION WITH
W. PARRY MORGAN, M.B. CANTAB., L. COLEBROOK, M.B. LOND., AND R. W. DODGSON, M.D. LOND.

GENTLEMEN,—I have the honour herewith to lay before you the second, and concluding, part of my Report on the Causation, Prophylaxis, and Treatment of the Pneumonia which affects the Native Labourers, and in particular the Tropical Native Labourers, in the Rand Mines.

In the introduction to Part I. the broad principles which must guide us when confronting bacterial disease were elucidated. It was explained that whether the object we have in view is prophylaxis or cure—that is, whether, as in prophylactic inoculation, we endeavour to kill off microbes immediately upon their entrance into the body before they have produced disease; or whether, as in medicine practised as a science, we try to kill off bacteria when, by invading the body in large numbers, they have already produced disease—our task is to supply to the organism substances which are specifically *bacteriotropic*—that is, substances which make a chemical attack specifically upon the microbes of disease.

We saw that in connexion with each several disease two paths of research open out before us. On the one hand, there is the path of *pharmacotherapy*. Following this, we may come to an effective and non-poisonous specifically bacteriotropic drug. There is, on the other hand, the path of *immuno-therapy*. Following this, we may come to an effective vaccine—i.e., to a vaccine which will, when administered in a proper dose, stimulate the chemical machinery of the patient to elaborate the required specifically bacteriotropic substances.

We have here to deal with the *immuno-therapy* of pneumococcus infections, and in particular with the employment of vaccines in the prophylaxis and treatment of pneumonia. It will not be amiss to begin by setting out the evidence which establishes that the pneumococcus is the microbe which is the causal agent of the pneumonia on the Rand. (Table I.)

The nature of the bacterial infection which was to be combated having been set at rest, our principal task stood out clearly before us. It was to prepare vaccines of the pneumococcus; to ascertain, if possible, what was the best form of vaccine; and above all to determine the effective and, so far as might be possible, the *optimum* dose of the vaccine, and the best method of application.

We may with advantage begin with a brief description of the methods we adopted in preparing the vaccine; and we may then, before dealing specifically with immunisation against the pneumococcus, call attention to those broad general principles with regard to dosage and the *modus operandi* of vaccines which would appear to be deducible from the experience won in connexion with immunisation against other bacterial infections.

TABLE I.—*Data of Blood Cultures and Lung Puncture Cultures undertaken upon Cases of Pneumonia in Tropical Natives treated in the Hospital of the Witwatersrand Native Labour Association.*[2]

Nature of the bacteriological observation.	Number of cases examined.	Number of cases in which the pneumococcus was found.	Number of cases in which the cultures remained sterile.	Number of cases in which a microbe other than the pneumococcus was found.
Blood cultures (1 to 20 c.c. of blood).	330	99*	277†	4‡
Lung puncture cultures.	53	34§	18‖	1‡

* Of these, 56 (i.e., 56 per cent.) succumbed. † Of these, 76 (i.e., 27·5 per cent.) succumbed. ‡ The micro-organism which grew was in each case one of the coli group. § Of these, 10 succumbed. ‖ Of these, 6 succumbed.

SECTION I.—*Preparation of Pneumococcus Vaccines.*

We experimented somewhat extensively with a view to selecting for use a medium which should give a very copious culture of pneumococcus. Varying in a methodical manner the peptone, extractives, and alkali of ordinary peptone broth, and then making to such media graduated additions of human serum, we found that very copious cultures of pneumococcus were regularly obtained with a medium which contained (*a*) 1 per cent. of peptone and 1 per cent. of lemco; (*b*) 2½ to 5 per cent. of human serum; and (*c*) an amount of alkali fixed by neutralising to phenolphthalein, and then adding 6 c.c. of normal acid solution to each litre of medium.

During the first couple of months of our work in Johannesburg we worked with a medium composed as above; but finding that we obtained much more copious cultures by adding up to 1 per cent. of glucose to the above mentioned medium, we employed such serum glucose broth in most of our subsequent work. We would, however, point out in this connexion that where such a serum glucose broth is employed it is necessary to be constantly on the watch against the occurrence of autolytic processes which go, it would seem, hand in hand with the development of acid in the culture medium. For these autolytic processes[3] may, even they stop short of an actual disintegration of the microbes, deprive the bacteria of their power of staining with aniline dyes, and so give rise to formidable fallacies in standardising the vaccines.

Our vaccines were in all cases made from cultures which had grown for 24 to 30 hours. They were standardised by enumeration by the now familiar method devised by one of us. The cultures were killed by exposure to a temperature of 55° to 56° C. for half an hour. An addition of ½ per cent. of carbolic acid was then made to the vaccines.

SECTION II.—*Generalisations with Reference to the Modus Operandi and Dosage of Vaccines, and Considerations suggested by Experience won in connexion with Prophylactic and Therapeutic Inoculation generally.*

Whenever an *antigen*—and we mean by an "antigen" an alien molecule whose incorporation

[1] Being Part II. of a Report to the Witwatersrand Native Labour Association on the Results of an Inquiry into the Causation, Prophylaxis, and Treatment of the Pneumonia which affects the Native Labourers, and in particular the Tropical Native Labourers in the Rand Mines. Part I. was published in THE LANCET of Dec. 14th (p. 1633) and 21st (p. 1701), 1912.

[2] It may be explained that this hospital is attached to the depôt to which all tropical native labourers arriving at Johannesburg are drafted for subsequent distribution to the mines.

[3] It may be observed in passing that we found that the culture fluid in which autolysis has occurred did not exert any bactericidal power upon the pneumococcus.

incites the chemical machinery of the body to immunising response—comes into operation upon the tissues, these react to that attack by producing *antigeni-tropic* and *antigeni-clastic substances*—i.e., substances which combine with, render inert, and break down the antigen. It is a characteristic feature of such reactions of immunisation that the output of antigeni-tropic and antigeni-clastic substances is in the ordinary case much in excess of what would suffice for the neutralisation and disintegration of the quantum of antigen which call forth their production.

The reaction which is evoked by the inoculation of a bacterial vaccine is merely a special case of immunising response. By it bacteriotropic substances, and among these substances which break down the bacterial protoplasm—bacterioclastic substances—are produced. And in the ordinary case the inoculated organism is, at the end, left in possession of an increased store of these protective substances. We take advantage of this in prophylactic and therapeutic inoculation.

Passing from the consideration of the *modus operandi* of bacterial vaccines to their dosage it is essential to realise *in limine* that we must be on our guard against importing into the study of this question preconceptions derived from experience with drugs. When, for instance, we come upon the fact that there are reported, in connexion with therapeutic inoculation, good results from the administration of minimal doses of vaccines, and also equally good results from the administration of doses 1000 to 100,000 times larger, it would be quite wrong to assert upon the basis of an experience with drugs that these divergent reports are contradictory and irreconcilable. To rush to such a conclusion would be to close one's eyes to the fact that provision is made in the organism for combating, on the one hand, trivial localised infections, and, on the other hand, severe septicæmic infections—in other words, for making immunising response both to small and to relatively large doses of bacterial antigens.

Again, it would be fatal to conclude from an experience of drugs that, if a particular dose of vaccine produced serious symptoms, a tenfold larger dose would of necessity produce graver symptoms, and still larger doses a rapidly fatal result. That would be to leave out of reckoning the fact that there are in the organism compensating arrangements; and that there is provision for ignoring, or at least for provisionally ignoring and postponing the attack upon, massive bacterial infections which are upon too large a scale to be disposed of immediately.

In connexion with the dosage of bacterial vaccines we have to guide ourselves by a series of general principles, which have either emerged in the course of the general study of immunisation or have been derived from the direct measurements of the bacteriotropic power of the blood made in connexion with the inoculation of bacterial vaccines. Of these general inferences, the following are perhaps for us the most important.

In the case where a bacterial vaccine is incorporated in minute quantity directly into the subcutaneous tissue one would on *a priori* grounds anticipate that the whole of it would be "anchored" at the seat of inoculation, with the result that the immunising response would be confined to this region and its lymph channels; and with the further fundamentally important practical result that the effect produced upon the general system by the inoculation would not differ from that which would be produced by a conveyance of a small quantum of protective substances into the blood.

The inference that the *minimal effective dose* of vaccine calls forth only a *local immunising response* is confirmed by the fact that, so far as we know, the only change in the blood after the injection of such a dose is a rise in its bacteriotropic power. When a larger dose of bacterial vaccine is inoculated into the subcutaneous tissue—i.e., when the dose of bacterial antigen exceeds that quantum which can be anchored at the seat of inoculation—one would expect, first, an influx of vaccine or of its derivative antigen into the blood-stream; and after this, in the ordinary case, as soon as the antigen has come into operation upon the general tissues, a *systemic immunising response*, with an inflow of protective substances into the blood. We have confirmation of this anticipation in the fact that we obtain after the inoculation of a moderate dose of vaccine, first, a *negative* and afterwards a *positive phase* of bacteriotropic power—in other words, *first*, a phenomenon of de-immunisation and then a phenomenon of immunisation. But clearly the achievement of a systemic immunising response would be conditional upon the antigen remaining free in the blood; and upon the concentration of the antigen being, after dilution with the whole volume of blood, such as to permit of its coming into effective operation upon the tissues.

There are here two possibilities. There is, on the one hand, the possibility that the antigen might be too concentrated at the seat of inoculation to produce a local immunising response; and that it might, after dilution with the whole volume of the blood, and eventual neutralisation there, be reduced to the point of ineffectiveness. We should in such a case have neither a negative nor a positive phase. There is, on the other hand, the possibility that the antigen might, even after it had been diluted with the whole volume of the blood, still be too concentrated to be effective. We should in this case expect a negative phase which would not be followed up by a positive phase. Only methodical experimentation could show exactly up to what point these theoretical possibilities are realised. It is, however, practically certain that an overpowering dose of vaccine—typhoid vaccine is the vaccine we have here in view—produces a well-marked and enduring negative phase.

We have not yet come to the end of the complications which have to be unravelled. We have to account also for the facts—(*a*) that a dose which in one man produces no constitutional commotion will in another produce severe disturbance; (*b*) that after a certain dose of vaccine has been arrived at, further increments produce no further increase in the constitutional disturbance, and no further reduction in the bacteriotropic power of the blood; (*c*) that the infected organism is generally much more sensitive than the uninfected organism, both to toxic effect of the homologous vaccine, and also to its de-immunising and immunising effect; (*d*) that the organism when wasted by severe and long-lasting infection becomes again more tolerant of the vaccine; and (*e*) that a similar tolerance is established in a patient whose blood has been tampered with by the incorporation of large doses of vaccine.

In connexion with this series of facts we shall do well to reflect that before a vaccine can take effect upon the tissues, and before an immunising response can be evoked from these, the bacterial protoplasm

would have to be brought into solution by the blood-fluids. Further, the bacterial extract which bacteriolysis would then have furnished might, perhaps, have to be decomposed in such a way as to set free the antigen.

Three different operative factors might here influence the result: (*a*) Each different species of microbe might offer a different resistance to bacteriolysis, and each resulting bacterial extract a different resistance to bacterioclasis. (*b*) The mode in which the vaccine is incorporated might tell upon the result. In the case where it is incorporated into, and remains lodged in, the subcutaneous tissue one might, inasmuch as here only a small quantum of lymph comes into operation upon the vaccine, expect to obtain, at best, tardy and incomplete bacteriolysis and bacterioclasis. Where the vaccine is carried on into the circulation, or is incorporated directly into the blood stream, one might expect a more rapid and complete setting free of the antigen. (*c*) Natural differences in the bacteriolytic and bacterioclastic powers of the blood of different individuals, and also differences referable to foregoing immunisations or de-immunisations, might come into play.

All these different considerations suggest to the mind that we have to consider in inoculating not the actual quantum of vaccine we incorporate, but the quantum of antigen which will be set free from it in the organism of the patient. This hypothesis would fit the fact that there always comes, in the case where progressively larger doses of vaccines are administered, a point where an increase in the dose ceases to call forth a greater response. Our hypothesis would explain also the difference in the behaviour of different vaccines. We have in view here the fact that we obtain with a vaccine like typhoid vaccine, which is readily dissolved and presumably broken up by the blood fluids, a local inflammation at the seat of inoculation, and when a sufficiently large dose is inoculated, also constitutional disturbance with a negative phase; while we obtain neither local inflammatory reaction nor negative phase disturbance when we are dealing with a vaccine which the patient's blood is incompetent to dissolve and decompose. Our hypothesis would explain also the fact that a patient who has, as a result of immunisation or auto-immunisation, acquired a greater bacteriolytic and bacterioclastic power, evinces an increased sensibility to the vaccine. For this is what might reasonably be expected to occur if antigen was set free and a corresponding quantum of antidotal substances was not available to neutralise it. And, in point of fact, this would appear to be the condition encountered in the ordinary tuberculous patient. We have here in the blood an increased bacterioclastic power,[4] and in association with this a great sensitiveness to the epidermal application of tuberculin (Pirquet's phenomena); a greater constitutional sensibility to an incorporation of tuberculin; and a greater susceptibility to its immunising and de-immunising action.

Having once recognised that increased sensitiveness to a bacterial vaccine may be an expression of progress—of course, only very lop-sided progress—in immunisation, the way is open to the recognition of the possibility that the condition of tolerance which characterises the patient who is wasted with a long infection, or has been treated with large doses of vaccine, may mean a reduction in the bacterioclastic power of the blood, and so a retrogression in immunity. The failure to react to tuberculin, and the absence of the Pirquet reaction in old-standing and desperate cases of tuberculosis, would perhaps be explicable in this manner.

In conclusion, it may be pointed out that while some of the increased sensibility of the infected to their homologous vaccine may be put down to the account of increased bacterioclastic power, we must recognise that the constitutional disturbance which supervenes in the infected is due primarily to the fact that inoculation produces in them always a secondary auto-inoculation. We can account for the occurrence of such a secondary auto-inoculation when we consider that there must inevitably follow upon any rise in the bacteriolastic power of the blood a breaking down of microbes and a setting free of antigen in the focus of infection which would correspond to a supplementary inoculation. It will accordingly be necessary when reckoning the dose for an infected patient to calculate for the dose which we administer being reinforced by the quantum of antigen which will be liberated in the focus of infection.

In bringing this section to a close it may be pointed out that the general principles we have here been considering must be kept in view not only by the practical worker, but also by the statistician who analyses the results of inoculation. Certain other general considerations in connexion with the dosage and *modus operandi* of vaccines will suggest themselves as we develop our theme.

SECTION III.—*Account of the Laboratory Work undertaken with a View to Finding the Optimum Dose of Pneumococcic Vaccine and the Best Scheme of Administration.*

When we set ourselves the task of finding out what is the optimum dose of a vaccine and the best scheme of administration we can employ one or other of two different methods. We can either—selecting as best we can (which means by a more or less haphazard procedure) a "reasonable" dose and scheme of administration—directly undertake a mass experiment, with the idea of afterwards modifying our dose and programme of inoculation in the light of the statistical results which will come in. Or we can in connexion with each small group of inoculations test the effects we are producing upon the blood with a view to finding out in this way what dose of vaccine and what scheme of inoculation furnish the best curve of immunisation. It will be obvious that if we can adopt this latter procedure, and are not quite unsuccessful in our investigations, the possibilities of failure will be reduced and the prospect of achieving the optimum results will be more favourable. Influenced by this consideration our plan of action was made up, and we addressed ourselves immediately to a preliminary study of the blood in its relation to the pneumococcus in order to prepare ourselves to measure the rise and fall in protective substances elaborated in response to each different dose of pneumococcus vaccine and each different method of administration.

With these thoughts and designs we investigated in succession: (*a*) *the agglutinating power of the serum;* (*b*) the *bactericidal power of the serum;* and (*c*) the *opsonic power of the serum.* Further—

[4] We have found—and this is in consonance with the results of experiments carried out by F. Meyer and Schmitz (Deutsche Medicinische Wochenschrift, 1912, No. 42, p. 1963) on rabbits—that tuberculin, which has been digested *in vitro* at 37° C. with the serum of a patient, gives a marked Pirquet reaction on the skin of a healthy individual who is insensitive to a control insertion carried out simultaneous on another portion of his skin with the same concentration of untreated tuberculin.

breaking here new ground—we investigated the *phagocyto-bactericidal power* of the unaltered, artificially altered, and reconstituted blood.

Agglutinating Power of the Serum.

We may summarise the result of a number of examinations made directly *ad hoc*, and of a much larger number made incidentally in connexion with measurements of the opsonic power of the blood, by saying that the agglutination reaction is with the pneumococcus only very irregularly obtained. Working with subcultures from the blood- and lung-puncture cultures which were in question above, we found that the vast majority of these gave no agglutination reaction with the blood of any patient. Moreover, in the case of those exceptional cultures which gave agglutination, we obtained the reaction not only with a large number of sera from pneumonic patients, but also with a number of normal sera. By consequence we put aside the agglutination test as one that could not be utilised for the purpose of estimating the effect produced by pneumococcus vaccines.

Bactericidal Power of the Serum.

Previous experiments having taught us that the normal human serum when mixed volume for volume with progressive dilutions of the bacterial suspension exerts no bactericidal effect upon the pneumococcus, we elaborated, for the purposes of the present research, a technique which allows of the serum being brought into application upon the pneumococci in a practically undiluted condition. The technique which realises this requirement may here be briefly described.

The apparatus consisted of looped pipettes, such as are described and figured by one of us in his text-book of technique.[8] A 5 c.mm. volume was marked off upon the stem of each pipette by introducing, by the aid of an automatic pipette, 5 c.mm. of mercury into its distal end, and then inscribing a pencil mark opposite the upper level of the mercury.

The procedure is then as follows. After re-sterilising the stem and fitting a teat to the pipette, there is aspirated into the barrel a sufficient quantity of 1 per cent. serum broth to half fill it. There is then aspirated into the capillary stem—which is, when the broth has passed up into the barrel, left empty—5 c.mm. of the serum to be tested. This done, a bubble of air is drawn into the mouth of the pipette; this is then dipped into a suspension of the pneumococcus placed ready to hand in a tubule, and 5 c.mm. of this suspension is taken into the capillary stem. This done, the distal end of the pipette is brought up against the inner wall of an empty sterile tubule placed upright in plasticine, and now the 5 c.mm. of the pneumococcus suspension is, by carefully regulated pressure upon the teat, expelled, while the serum, which follows after, is carried forward to the very orifice so that it may incorporate into itself all the microbes which the suspension leaves behind on the wall of the tube. This accomplished, the serum is, by relaxing the pressure on the teat, carried back into the middle third of the stem of the pipette so as to allow of our sterilising the distal end and sealing it up in the flame.

By this technique we can, if we are employing a series of graduated dilutions of a bacterial suspension, incorporate into our 5 c.mm. volumes of serum graduated numbers of microbes.

[8] Wright's Technique of the Teat and the Capillary Glass Tube. London: Constable. 1912.

Two further points in connexion with the technique remain to be explained:—

(1) After the serum has operated upon the microbes which have been incorporated into it for such period as we may have decided upon (in our experiments the serum was generally allowed to operate upon the microbes for four to five hours) we fit a teat to the tube; break off the tip of the capillary stem; draw up the serum into the nutrient fluid in the barrel of the pipette; and then incubate for 24 hours to ascertain whether the microbes have, or have not, been killed by contact with the serum.

In order to make all go off smoothly in opening up the pipette, we employ one or other of the following devices: (*a*) we draw out the end of the capillary stem into a hair-fine tube before imposing the collapsed teat; or (*b*) we employ a perforated teat; or (*c*) we mark the position of our column of serum by inscribing a pencil mark on the stem of the pipette; then impose a partially collapsed teat; and then, before breaking off the tip of the capillary stem, regulate by pressure on the teat the air-pressure in the pipette in such a manner as to bring our column of fluid back accurately to the level of the pencil mark.

(2) To find out the number of microbes which we are dealing with in our bactericidal estimation we take another series of similarly graduated pipettes, using enough of these to have two or more for each of the more diluted bacterial suspensions. We fill in these pipettes with the same nutrient fluids, and then—varying the technique from that described above only in the respect that we omit the volume of serum—we draw into separate tubes 5 c.mm. of each successive bacterial suspension; expel this, driving forward the nutrient fluid to the mouth of the tube, so as to incorporate into it all the microbes which remain behind on the walls; and then place the series of pipettes in the incubator.

With this method we tested in all 264 samples of serum; 41 of these were derived from ourselves, 20 were derived from natives in different stages of pneumonia, 27 were derived from uninoculated tropical natives, and 176 were derived from tropical natives who had been inoculated once or oftener with different doses of pneumococcus vaccine. In the case of the sera derived from the last two classes of persons, we employed in each experiment the pooled serum of a group of two to five patients, counting this, of course, only as one serum. In the case of the sera derived from pneumonic native patients or from ourselves (who served in each case as controls) each serum was taken in hand separately. The results of the bactericidal estimations thus undertaken may be tabulated as follows:—

TABLE II.

Variety of serum.	Total number of observations.	Number of observations in which no microbes were killed by 5 c.mm. of serum.	Number of observations in which 1 to 3 microbes were killed by 5 c.mm. of serum.	Number of observations in which 3 to 9 microbes were killed by 5 c.mm. of serum.	Number of observations in which over 9 microbes were killed by 5 c.mm. of serum.
Normal European.	41	36	4	1	0
Native pneumonic patients.	20	11	9	0	0
Normal tropical natives.	27	19	8	0	0
Inoculated tropical natives.	176	161	15	0	0

We may obviously conclude from these observations: (*a*) that the normal serum of whites and

tropical natives does not exert any appreciable bactericidal effect upon the pneumococcus; and (*b*) that the serum of the natives does not acquire any appreciable bactericidal power under the influence of either natural infection or inoculation. At the same time we would point out that, while there is no bactericidal power in the serum which is worth while taking into account in connexion with the study of the effects of inoculation and auto-inoculation, closer study reveals that the sera which have a high opsonic power, and which manifest from time to time such slight bactericidal effects as are shown in the table above, may perhaps possess an appreciable power of inhibiting the growth of the pneumococcus. It may, for instance, be noted that the serum of A. E. W., which in 17 bactericidal experiments gave on three occasions evidence of a slight bactericidal power (5 c.mm. of the serum once killing up to 9 pneumococci), was found when admixed with broth (in proportions of 40 and higher percentages of serum to 60 and lower percentages of broth) to inhibit or retard the growth of the pneumococcus, while the blood of L. C., which gave in 10 bactericidal experiments completely negative results, failed to exhibit any growth-inhibiting power. Similar indications were obtained also with the blood of another laboratory worker (A. R. F.).

Opsonic Power of the Serum.

We had anticipated that the measurement of the opsonic power of the serum would have furnished us with a valuable method for making an evaluation—of course, only a partial evaluation—of the protective substances produced in response to the inoculation of vaccines or auto-inoculation. We obtained, however, from much assiduous work devoted to the measurement of the pneumo-opsonic power of the blood of the inoculated and uninoculated natives, and native pneumonic patients, a quite lamentably small harvest of suggestive and interesting facts. It will be worth while, even if only for the sake of the facts discovered by the way, to set out the difficulties which we encountered and the procedures which we resorted to to circumvent those difficulties.

Difficulties which present themselves in connexion with the measurement of the pneumo-opsonic power of the serum.—(*a*) The *first* difficulty which presents itself is one to which Rosenow has called attention in the first of the very valuable series of memoirs which he has published on the pneumococcus. The difficulty in question lies in the fact that cultures of pneumococcus freshly isolated from pneumonic cases often fail to give any phagocytosis. After having been for some time baffled with this difficulty, one of us (W. P. M.) found a method of circumventing it, which very often does away with the necessity of making a series of subcultures. This expedient consists in making the suspension of the culture in distilled water instead of in physiological salt solution or nutrient broth. The longer, within limits, the water is left in contact with the culture the greater is the phagocytic count. The favouring influence of treatment with distilled water manifests itself also in the case of pneumococci which have by subculturing become susceptible to phagocytosis. This is shown in Tables III. and V.

(*b*) A *second* difficulty presents itself in the fact that phagocytosis is restrained by an excess of microbes in the suspension employed in the phagocytic mixture. To give examples: The pooled blood of five laboratory workers was tested

TABLE III.

Serial number of the patient who furnished the serum.	Phagocytic count obtained with pneumococcus No. 92 in watery suspension.	Phagocytic count obtained with pneumococcus No. 92 in 0·85 per cent. NaCl suspension.
67053	1·32	0·96
89559	1·60	0·58
69416	6·00	4·5
69419	3·14	1·80
69475	1·08	0·27
69352	6·00	4·80

in phagocytic mixture with suspensions of the pneumococcus containing respectively 1800, 900, 300, and 100 millions of microbes. The phagocytic counts obtained with these four suspensions were respectively 1·01, 4·96, 3·16, and 2·28 per cell. In another experiment in which W. P. M.'s serum was put up with an uncounted suspension of pneumococcus and with 2-, 4-, 8-, 16- and 32- fold dilutions of that suspension, the phagocytic counts of the series of dilutions corresponded to 1; 3·1; 2·65; 1·65; 1·6; and 1·3 respectively.

(*c*) A *third* difficulty presents itself in the fact that every strain of pneumococcus—and from this point of view every case of pneumonia furnishes a separate strain—gives a different amount of phagocytosis; and that the order of merit of a series of sera as determined by reference to one strain is not the same as the order of merit as determined by reference to another strain. Evidence of this is furnished by the typical experiments set out in Tables IV. and V.

TABLE IV.

—	Initials or serial numbers.	Phagocytic count with pneumococcus strain 135.	Phagocytic count with pneumococcus strain 165.
Laboratory workers.	A. E. W.	1·22	3·20
	W. P. M.	0·78	2·35
	F. C. L.	0·93	1·12
	O. S.	0·78	1·8
Native pneumonic patients.	60134	1·12	0·40
	106654	1·17	2·0
	89807	1·33	1·16
	69875	0·78	1·76

TABLE V.

—	Initials or serial numbers.	Phagocytic count with pneumococcus strain 165 suspended in water.	Phagocytic count with pneumococcus strain 181 suspended in water.	Phagocytic count with pneumococcus strain 181 suspended in 0·85 NaCl.
Laboratory workers.	A. E. W.	5·72	2·10	1·35
	W. P. M.	5·61	2·05	1·10
	F. C. L.	3·28	0·10	0·17
	L. C.	3·66	0·85	0·65
Native pneumonic patients.	60463	6·10	3·10	2·57
	60556	2·82	0·42	0·27
	60586	2·80	0·07	0·0
	60676	1·18	0·0	0·10

A *fourth* difficulty presents itself in the fact that different subcultures of one and the same pneumococcus give, even when the suspensions employed contain exactly the same numbers of microbes, quite different amounts of phagocytosis. Differences in the composition of the culture medium here exercise a determining influence. When using cultures grown on agar made up with heated serum we obtained with all sera relatively high phagocytic counts. Cultures grown on agar made up with unheated blood gave, on the other hand, with ordinary sera a low phagocytic count, and with

sera which possessed subnormal opsonic powers no phagocytosis. In other words, we had in the one case a comparatively speaking non-differential phagocytosis, such as is shown in Table IV., first column of figures, and Table V., first column of figures, and in the other case a highly differential phagocytosis, such as is shown in Table IV., second column of figures, and in Table V., second and third columns of figures. But irregularities of this kind were also obtained apart from obvious differences in the culture medium. They were continually manifesting themselves even in the case where tubes from one and the same batch of nutrient medium were employed. This was the most formidable of all our difficulties. It rendered nugatory all our efforts to obtain a series of opsonic readings which should be comparable from one day to another; and in point of fact it marred and put out of account every one of the immunisation curves which we set ourselves to construct with intent to select for our prophylactic inoculations that dose of vaccine and scheme of administration which should give the maximum immunisation reaction.

One might have supposed that the expedient of employing a control of normal sera—the expedient which has resolved the problem of measuring the opsonic power of the blood to a large variety of microbes—would have provided a way of escape out of these difficulties. As a matter of fact it fails to do so. Quite definite conditions must be fulfilled before opsonic measurements which are carried out from day to day in separate operations can be combined into an immunisation curve.

(*a*) We can register *the occurrence of a positive or negative phase* upon condition that we have in our series of measurements a trustworthy base line which runs along at a level well below that which the opsonic power of the patient attains in the positive phase of an appreciable immunising response, and well above the level to which his opsonic power sinks away in the negative phase. This condition will be fulfilled if we employ for our controls uninfected and uninoculated persons who, except in the fact that they are uninfected and uninoculated, correspond with those we are operating upon; and further, if we take as our fiducial point in each successive examination the arithmetical mean of the phagocytic counts of several different control sera.

(*b*) We can register the *dimensions and duration of a negative or of a positive phase* upon condition that we have for our successive measurements, on the one hand, a level base line; and, on the other hand, a numerical scale, whose divisions remain constant. These conditions are fulfilled if we employ from day to day a series of control bloods in association with *homologous bacterial suspensions* —meaning here by "homologous suspensions" such as would give with one and the same serum the same amount of phagocytosis. But where we employ bacterial suspensions which are not homologous and where our control sera differ in opsonic power—and let us here incidentally note that we may expect to find differences in opsonic power in connexion with every microbe which, like the pneumococcus, is a constant or frequent denizen on our mucous membranes—our fiducial point and the value of the divisions of our scale will differ from one day to another.

Now these are, as the reader will have gathered, the conditions with which we have to deal when we set ourselves to measure the opsonic power of the blood with respect to the pneumococcus. The conditions may be compared with those which would present themselves in a competitive examination in which each candidate had to be separately examined, each being pitted in his turn against a group of control examinees whose average achievements were to furnish the standard of comparison.

It will, on calling up clearly before the mind what would happen under these conditions, be realised that the marks of the competing candidates could not under such a system give an equitable standard of comparison if at one time a stiff and at another time an easy examination was set. For in an easy examination each examinee would score more or less the same number of marks, with the result that the controls would be much on a level, and the competing candidate somewhere near that level. This would amount to differentiating in favour of the weak and against the strong candidate. For both would in an easy examination be brought inequitably near to the mean. On the other hand, in a difficult examination there would be maximal differences between the marks of the examinees, and the competing candidate who diverged from the arithmetical mean would accordingly be allotted either an unduly high or an unduly low mark. And this, of course, would be equivalent to differentiating against the very weak and in favour of the strong candidate. For both would in a difficult examination be spaced out unduly from the mean.

It having by this been made plain that opsonic data which should fulfil the condition of being from day to day comparable among themselves, and quantitatively trustworthy, were out of our reach; there remained for us—and there here remains for the reader—the question as to whether at least qualitative results in the form of a notification of a rise or fall in the pneumo-opsonic power of the blood could be obtained for our guidance in our practical work.

We have seen above that such information can be secured only when we are employing controls which are uninfected, and which are, except with respect to infection and inoculation, comparable with the patients. In order to make so far as possible sure of fulfilling this condition, we took as control bloods every day, *first*, our own bloods and those of our fellow laboratory workers (in all four to six European bloods), and, *secondly*, one, two, or sometimes three groups of uninoculated tropical natives (usually five to ten, and occasionally more native bloods). We took, it may be remarked, our native controls from the same gang and race as the inoculated, and we employed every day for our controls the same individuals.

With regard to the native controls. When we took, as we usually did, two groups of these controls from different tribes, we frequently found that while duplicate specimens of each set of bloods gave concordant results, the two sets not infrequently showed a very wide divergence. We provisionally imputed this to tribal differences; but we afterwards satisfied ourselves that practically every group of uninoculated native bloods obtained from the Witwatersrand Native Labour Association compound, where we were at work, showed when measured against the European controls quite definite fluctuations in opsonic power, which could not be attributed to a variation in the bacterial suspensions used on different days. And there is in point of fact litlte doubt that the difficulties which we were labouring with were due

to the circumstance that our controls were taken from a population which was furnishing a formidable number of cases of pneumonia, in addition to almost innumerable unregistered cases of mild pyrexia which were probably in large part pneumococcic infections. And when we proceeded to make daily measurements of the temperature of each control we found that, no matter what precautions had been taken in selecting at the outset, there were always a good number who showed in the course of the ten days or fortnight during which we were taking daily specimens of their blood, slight temperature disturbances, to say nothing of the fact that some of them actually contracted pneumonia.

Coming to ourselves, who were the European controls, we were unsatisfactory in the respect that our normal diversity in opsonic power may quite well have been exaggerated by the fact that some of us (especially A. E. W. and W. P. M.) were, and others of us were not, in daily contact with pneumonia patients. And we were unsatisfactory as controls also in the respect that the arithmetical mean of our phagocytic counts was so much greater than the arithmetical mean of the phagocytic counts of the uninoculated natives that it was quite impracticable to use that arithmetical mean as a standard for a negative phase, or even for a moderate positive phase occurring in a native. We became useful as controls only when it came to registering a maximal immunising response.

This brings us to the summing up of the results of the thousands of opsonic estimations undertaken by us in the course of this research. Those results—so far as concerns help obtained in the selection of the dose for prophylactic inoculation—may be summed up in the statement that on taking a general survey of the data obtained by our daily comparisons between groups of inoculated and uninoculated natives, and natives suffering from pneumonia, and ourselves, we were able to satisfy ourselves that the doses of 200 to 300 millions which we were tentatively administering at the outset of our work elicit in the native an opsonic response which brings him in the ordinary case up above the level of the uninoculated native, and in the favourable cases up to the level of the native who is making good immunising response against pneumonia.[6] In other words, the opsonic response which is in favourable cases elicited in a native by a dose of 200 to 300 millions of pneumococci would seem to be not much below his maximal opsonic response—assuming this to correspond to the best opsonic response met with in the native pneumonic patient.

On the other hand, we must not leave out of view that our opsonic measurements failed to tell us: (*a*) what is the optimum dose of pneumococcic vaccine for general use in prophylaxis; (*b*) what is the best dose to employ in treatment of pneumonia; (*c*) whether one inoculation ought to be followed up by another, and, if so, how soon it ought to be followed up; and (*d*) whether a single hypodermic inoculation, or (*e*) the same aggregate dose of vaccine distributed in multiple hypodermic inoculations, or (*f*) intravenous inoculations—for we endeavoured to investigate all these points—give the best immunising response.

[6] That this level is sometimes higher than that of the uninoculated European will be seen on referring to Tables IV. and V., and noting that there were among eight pneumonic patients two who had a higher phagocytic count than any of ourselves.

EXCURSUS No. 1.—*On the Effect of Pooling Sera, and Description of a New Method for testing Sera in Groups.*

The method of combining the sera of patients so as to obtain in one operation the average bacteriotropic power of the group is, as will be recognised, almost indispensable to the working out of the optimum prophylactic dose of a vaccine. The method of pooling which was introduced by one of us for this purpose has in the hands of Leishman served to fix the prophylactic dose of typhoid vaccine. We ourselves for a long time pooled the control bloods employed in tuberculo-opsonic estimations, obtaining here results which, as we were dealing with bloods which had appreciably the same opsonic indices, naturally corresponded to the arithmetical mean of the opsonic indices of the component bloods. When afterwards we laid the method aside, this was done only with a view to securing the valuable cross-check which is, in the case where all normal bloods possess essentially the same opsonic power, obtained by the reciprocal control of one blood by another.

In connexion with the task of fixing the prophylactic dose of pneumococcus vaccine, inasmuch as here not only the inoculated but also the control group is composed of individuals differing widely in opsonic power, we expected to derive quite conspicuous advantage from the procedure of pooling. This expectation was not realised. While we obtained, with *normal European bloods*, in the exceptional case where their pneumo-opsonic indices agreed very closely, a value for the pooled serum which corresponded very closely with the arithmetical mean of the separate sera; we obtained, in the case where the opsonic powers of the bloods differed, phagocytic counts for the pooled sera which corresponded in practically every case with that of the constituent serum which gave the highest count. Quite typical findings are set out in the subjoined table:—

TABLE VI.

Indication of the source of the serum.	Phagocytic counts of the separate sera.	Phagocytic count of the pooled serum.	Arithmetical mean of the phagocytic counts of the separate sera.
A. E. W.	4·86	4·2	4·5
W. P. M.	4·0		
F. C. L.	4·6		
A. E. W.	4·08	4·4	3·45
F. C. L.	2·86		
A. E. W.	4·5	4·6	3·1
F. C. L.	1·68		
A. E. W.	5·4	5·1	4·0
W. P. M.	2·3		
F. C. L.	4·35		
A. E. W.	6·3	6·24	2·8
W. P. M.	0·48*		
F. C. L.	1·71		

* This was an accidentally hæmolysed specimen of blood.

We may point out, in connexion with these results, that the concordance of the phagocytic counts of the pooled serum with the phagocytic count of the most active of the constituent sera is in consonancy with the observation that the opsonic power of a serum is not reduced until a much higher dilution is arrived at than that reached when, as in these and the subjoined experiments, a serum is mixed with equal volumes of a few other sera.

Very different to the above were the results obtained when we worked with the bloods of inoculated natives, of natives who were suffering

from pneumonia, and oftentimes of uninoculated natives who were living exposed to infection in the Witwatersrand Native Labour Association compound. Here we obtained for the pooled sera values which were, more often than not, much lower than the arithmetical mean of the component sera. A series of quite typical examples are subjoined in Table VII.:—

TABLE VII.

Indication of the source of the serum.	Phagocytic counts of the separate sera.	Phagocytic count of the pooled serum.	Arithmetical mean of the phagocytic counts of the separate sera.
Inoculated native, No. 1	0·38		
" " " 2	1·06		
" " " 3	0·96	0·4	0·91
" " " 4	1·14		
" " " 5	1·3		
Native pneumonic patient	1·75		
Uninoculated native	0·96	0·8	1·35
Native pneumonic patient	0·48		
Uninoculated native	0·95	0·4	0·71
Uninoculated native	0·9		
Uninoculated native	1·25	0·72	1·05
Uninoculated native	2·1		
Uninoculated native	1·25	0·9	1·67

We are unable to furnish any satisfactory explanation of these findings. It occurred to us as a possibility that the phenomena here in question might be asociated with a negative phase, or at any rate with the presence of a pneumococcic antigen in the blood; but despite the fact that we devoted much labour to the study of the question, we were unable to satisfy ourselves on the point. Of far greater moment and far more urgent was for us the task of replacing the method of pooling the sera which had been recognised as fallacious by some better method. After a time we succeeded in finding such a method. It is a procedure for the pooling of a series of phagocytic mixtures.

The essential features are as follows. We take our group of bloods, a group of usually four to six bloods. Using then for each blood a separate capillary pipette we make our series of phagocytic mixtures; and working as rapidly as possible we range these side by side in separate drops on a glass slide. We then take in hand a somewhat larger and more roomy capillary pipette; inscribe a fiducial mark on its stem; and then aspirate into this an equal volume of each phagocytic mixture—dividing off the mixtures in each case by a bubble of air, a minute volume of physiological salt solution (taken up from a watch-glass placed ready to hand), and another bubble of air. This done, we seal up the tip of the pipette and insert it into the opsonic incubator. After incubation the phagocytic mixtures are blown out on to a slide so as to form a common drop (the intervening drops of salt solution may if desired be discarded). Finally, after the contents of the drop have been repeatedly drawn up into and blown out from the pipette, so as to effect thorough intermixture, we make our films.

When it is desired to compare the effect of pooling after incubation with pooling before incubation, we leave behind on the slide, when filling in our first pipette, enough of our phagocytic mixtures for filling in a second. Into this second pipette we take up, as before, an equal volume of each phagocytic mixture; but we now immediately blow them out so as to form a common drop; and then, after mixing, draw them up into the pipette—obtaining in this way the equivalent of an experiment with a pooled serum.

On referring to the subjoined table and comparing columns 3 and 5, it will be seen that we obtain by pooling the phagocytic mixtures after incubation values which show an all but exact correspondence with the values obtained by averaging the phagocytic counts obtained when the constituent sera are separately tested. And it will be seen on referring to column 4 of this table and to column 3 of the foregoing table, that we obtain with phagocytic mixtures pooled before incubation just such results as are obtained with pooled sera.

TABLE VIII.

Indication of the source of the serum.	Phagocyte counts separately.	Arithmetical mean of the phagocytic counts of the separate sera.	Phagocytic counts of phagocytic mixtures pooled before incubation.	Phagocytic counts of phagocytic mixtures pooled after incubation.
Uninoculated native No. 1	1·9			
" " " 2	2·62			
" " " 3	3·08	2·73	1·28	2·72
" " " 4	2·64			
" " " 5	3·4			
Uninoculated native No. 1	0·57			
" " " 2	1·47			
" " " 3	1·86	1·2	0·94	1·28
" " " 4	0·90			
Uninoculated native No. 1	1·92			
" " " 2	1·16			
" " " 3	1·66			
" " " 4	2·12	1·93	1·94	1·84
" " " 5	1·7			
" " " 6	3·04			
A. E. W.	4·5			
W. P. M.	3·5	3·74	4·48	4·1
F. C. L.	3·23			

Phagocyto-Bactericidal Power.

Reverting to the line of thought we were pursuing before entering upon the above excursus, we now pass on to consider yet another antibacterial attribute of the blood. We have seen that the data furnished by measurements of the pneumo-opsonic power were not sufficiently consistent from one day to another to allow of their being employed for the selection of the optimum dose of pneumococcus vaccine. This made us cast about for some other method of blood examination which should be competent to do what the measurement of the opsonic index had failed to do. In this way we came upon the method which is here to be described. We may, for reasons which will presently appear, designate it by the name of the "phagocyto-bactericidal method."

With regard to this method we may point out at the very outset that while it will, as it seems to us, help to illuminate the darkness which covers the mechanism of the destruction of microbes in the organism, we recognise that it would be difficult to apply on a large scale outside the four walls of a laboratory. For this reason, and because by the time that we had alighted upon the method our laboratory investigations were drawing to a close, and also because we had already obtained from the opsonic method sufficient information to allow of our now pursuing our investigations, so far as they related to prophylaxis, by the method of mass-experiments, we did not ourselves employ the phagocyto-bactericidal method for the determination of the optimum dose of vaccine.

What pointed the way to the investigation of the

phagocyto-bactericidal power of the blood was the fact that we had failed to find in the films which came under close inspection in connexion with our opsonic measurements any indication of an intracellular digestion of pneumococci in the phagocytes.

It was natural to pursue these observations by making cultivation experiments, employing in these the looped pipettes with the original bactericidal technique already referred to. On actually making experiments we found, with absolute uniformity, that there does not occur in the ordinary phagocytic mixture any destruction of pneumococci, even when the microbes are left in contact with the serum and corpuscles for as long as 24 hours. It immediately suggested itself to employ the modified bactericidal technique, which permits of working with practically undiluted blood,[†] and to experiment with (*a*) unaltered blood issuing direct from the capillaries; (*b*) defibrinated blood—i.e., leucocytes and serum obtained by stirring up the clot in an ordinary blood capsule; (*c*) human and horse blood in which clotting had been deferred by the action of cold; (*d*) decalcified and recalcified bloods; (*e*) plasma separated from the unaltered blood by rapid centrifugalisation; and (*f*) the residue of corpuscles which remains over after pipetting off the plasma. We propose elsewhere to treat fully of the results of these and other experiments. We accordingly set down here only what is fundamental and what relates specifically to the problem of the natives' defective resistance against pneumococcic infection.

The following experimental results seem to us from these points of view specially deserving of attention:—

(1) We find that when blood fresh from the capillaries operates upon the pneumococcus it invariably kills quite large numbers of pneumococci. We have obtained in this way with our own bloods a destruction of pneumococci equivalent to a destruction of 600,000, and on one occasion to 1,000,000 pneumococci, by 1 c.c. of blood.

(2) In connexion with the staphylococcus—a microbe which is not destroyed either by undiluted serum, nor yet by the serum and white blood corpuscles in the ordinary phagocytic mixture—a bactericidal effect, but on a much smaller scale than that with the pneumococcus, is obtained by the operation of the unaltered blood.

(3) In experiments made by our fellow-worker, Captain S. R. Douglas, in which serum and unaltered blood were respectively brought to bear upon the tubercle bacillus, a definite bactericidal effect was obtained with the whole blood, but not with the serum. There remains, however, to be studied in connexion with the tubercle bacillus—for the results obtained with it have not been uniform—the influence exerted by the age and strain of the culture and by the length of exposure to the action of the blood.

(4) No bactericidal effect upon the pneumococcus is exerted by the plasma which has been separated by centrifugalisation from the unaltered blood. We conclude from this that the phagocytes are an essential factor in the bactericidal action of the whole blood, and that action is a phagocyto-bactericidal action.

(5) With the corpuscles and serum of defibrinated blood, and with the decalcified blood we have obtained practically no bactericidal effect. We obtained some bactericidal effect with recalcified blood. We infer from this that contact with the unaltered plasma, or possibly the chemical change associated with blood coagulation,[‡] is an essential factor in the destruction of the microbes.

(6) We obtained no bactericidal effect with either human blood or horse blood which had been cooled over ice.

(7) While we obtained in a uniform manner with our own unaltered bloods a destruction of considerable numbers of pneumococci, we did not in four series of experiments carried out on uninoculated and inoculated tropical natives obtain in any instance any considerable phagocyto-bactericidal effect upon the pneumococcus.

EXCURSUS No. II.—*On the Racial Differences between the Tropical African Native and the European with respect to the Antibacterial Effect which their Bloods exert upon the Pneumococcus.*

We have in the course of the foregoing study of the antibacterial effects exerted by the blood upon the pneumococcus made frequent reference to the fact that the antibacterial power of the native bloods was less than that of our own bloods. Seeing that we have perhaps here the explanation of that high incidence-rate and great fatality of pneumonia, pneumonic cerebro-spinal meningitis, and other pneumococcic infections among African natives congregated upon the Rand and elsewhere in labour camps and compounds, it will perhaps be of interest to gather together the results of the observations which we made in the course of our work on the differences between native and European bloods.

We found in our study of the bactericidal and growth-inhibiting powers of the serum only slight indications of a difference between the sera of the African native and the European. If there was such a difference the advantage lay with the European.

In connexion with our measurements of the opsonic power of the blood, there was no longer any possibility of doubt. Here, as will be seen from the results collected into the subjoined table, very distinct differences emerged.

TABLE IX.—*Showing the Pneumo-opsonic Indices obtained by Dividing in Each Case the Arithmetical Mean of the Phagocytic Counts of a Group of Europeans (Laboratory Workers), with the Average Phagocytic Count* of a Group of Uninoculated Tropical African Natives.*

Serial number of the strain of pneumococcus employed.	Number of experiments undertaken with it.	Opsonic indices of groups of uninoculated natives.
83	4	0·8, 0·7, 0·5, 0·2
92	28	0·1, 0·1, 0·2, 0·3, 0·2, 0·4, 0·3, 0·4, 0·1, 0·4, 0·3, 0·3, 0·4, 0·4, 0·6, 0·25, 0·4, 0·9, 0·7, 0·4, 0·3, 0·4, 0·6, 0·2, 0·5, 0·4, 0·9, 0·7
135	2	1·0, 0·8
165	11	0·8, 0·8, 1·0, 0·5, 0·6, 0·6, 0·6, 0·8, 0·8, 0·9, 1·1
19	1	0·2
172	1	1·1
77	1	0·4
131	1	0·4
9	1	1·0
174	1	0·3
52	1	1·2
96	1	1·2
38	1	0·44

* This count was obtained by pooling, in accordance with the technique described in Excursus No. I., the phagocytic mixtures of the group after these mixtures had been separately incubated.

† It may be explained that the fact of the blood clotting in the capillary stem is, from the point of view of that technique, perfectly indifferent.

‡ It will be remembered in this connexion, on the one hand, that the exudation clots in the alveoli of the pneumonic lung; and, on the other hand, that enormous numbers of pneumococci are killed off in that exudation.

The findings which are set forth in this table and its teaching may be summarised as follows:—With eight of the 13 strains of pneumococcus which were tested, the sera of the uninoculated tropical natives (it will be remembered that a certain number of infected natives must have been included among our uninoculated) gave opsonic indices of less than one, and generally of much less than one. With the remaining five strains the sera of the uninoculated tropical natives gave indices of one or a little above or below one.

The strains which brought out differences as between tropical natives and Europeans were in all cases virulent strains, in the sense that when originally isolated they failed to give phagocytosis; and could only, by repeated cultivation on artificial media and suspension in water, be brought into a condition to give phagocytosis. Moreover—and the significance of this will not be missed—when these strains began to give phagocytosis they in every case gave it, at first, only with European sera. After a time they began gradually to give it also with the sera of uninoculated tropical natives. The fact that strain No. 92 continued for a long time to differentiate sharply between native and European bloods is, we think, due to our having nearly always grown this strain on agar made up with unheated blood.

With regard to the strains of pneumococcus which failed to bring out differences between native and European bloods these were presumably non-virulent strains. They were, at any rate, either strains which gave phagocytosis immediately on isolation from the patient or strains which had been subcultured without special precautions for a long time outside the body.

Compressing all the above into a sentence, we may say that the teaching of the table resolves itself into this: that where in connexion with the pneumococcus a difficult task is set to the blood, the native is far behind the European, but that where an easy task is set he draws up level.

Having considered the facts which relate to the uninoculated native, we have now to carry our thoughts back to those which relate to the native who is making immunising response to inoculation or auto-inoculation, and to ask ourselves what is the precise significance for the problem here under discussion of the observation that it is only exceptionally that the opsonic index of the native who is making immunising response comes up to the arithmetical mean of the pneumo-opsonic indices of the Europeans who served as controls in these measurements. The full significance of this fact comes home to us only when we realise that it is, not so much the original content of a patient's blood in protective substances, as his capacity for generating these in response to microbic invasion which gives the measure of his power of combating infection. Once this principle has been grasped it becomes clear that there is furnished to us, in the comparison between the opsonic power of the normal white man and that of the native who is making active immunising response, a better measure of the native's defect of resistance than is afforded by the comparison between the opsonic power of the normal white man and that of the normal native.

But there will perhaps here suggest itself the question as to whether there is really anything to indicate that the correlation between the native's relatively low opsonic index and his relatively high susceptibility to pneumococcus infections is not an accidental association. A comparison between the native's opsonic power to staphylococcus with that of the white man would go far to settle this point. For by common consent the native is a good "subject for operation"—probably a better subject than the European. This is as much as to say that the native offers good resistance to the common microbes of wounds—a state of things which ought, if there be a causal correlation between the opsonic power of the blood and the power of fighting a microbic infection, to go together with a satisfactory opsonic index. We made this almost critical investigation, repeating it four times, with the results which are set forth in the subjoined table:—

TABLE X.—*Showing the Results of a Comparison between the Staphylo-opsonic Power of Europeans and Tropical African Natives.*

Observation No. 1.		Observation No. 2.	
Indication of the source of the blood.	Phagocytic count.	Indication of the source of the blood.	Phagocytic count.
A. E. W.	1·87	A. E. W. / W. P. M. / F. C. L. pooled serum* ...	1·63
W. P. M.	2·28		
Native No. 1	2·16	Natives, Group No. 1,† pooled serum	2·1
" " 2	2·02		
" " 3	2·73	Natives, Group No. 2, pooled serum	1·86
" " 4	2·81		
" " 5	2·0	Natives, Group No. 3, pooled serum	2·72
" " 6	2·1		
" " 7	2·58	Natives, Group No. 4, pooled serum	1·9
" " 8	1·91		

Observation No. 3.		Observation No. 4.	
Indication of the source of the blood.	Phagocytic count.	Indication of the source of the blood.	Phagocytic count.
A. E. W. / W. P. M. / F. C. L. pooled serum* ...	2·74	W. P. M.	4·12
Native No. 1	3·3	Native No. 1	3·96
" " 2	4·72	" " 2	3·88
" " 3	3·64	" " 3	4·88

* It will be remembered that it has been shown in Excursus No. 1 *supra*, that when dealing with normal bloods the phagocytic count of the pooled serum is equivalent to that of the highest of the constituent sera.

† This and the following groups consisted of 4 to 6 natives.

The above results clearly lend very strong confirmation to the view that the native's deficiency in pneumo-opsonic power does stand in some causal relation with his low resisting power to pneumococcic infections.

Finally, it would be difficult to doubt that we have in the defect of pneumo-phagocyto-bactericidal power to which attention was called above a native character which stands in direct causal relation to the ravages which the pneumococcus makes among them.

(To be concluded.)

ROYAL ALEXANDRA HOSPITAL, BRIGHTON.—An interesting ceremony recently took place at the Royal Alexandra Hospital for Sick Children, Brighton, when the gift of a complete X ray apparatus was formally received by the committee, and a tablet was unveiled recording "The Louise Sassoon Electrical and X Ray Department." The opening ceremony was performed by Dr. E. Hobhouse in the presence of a numerous company, and a demonstration was given by Mr. W. Barrington Prowse, honorary skiagraphist of the hospital.

A Clinical Lecture
ON
SOME LATE MANIFESTATIONS OF INHERITED SYPHILIS.

Delivered at the London Hospital

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GENTLEMEN,—I propose to direct your attention in this lecture to a type of eruption occurring in inherited syphilis which is of the utmost importance for the following reasons: it is frequently mistaken for another disease—viz., lupus vulgaris—and leads to terrible deformity which is only paralleled by certain advanced cases of rodent ulcer of the face.

CASE 1.—The little girl now shown (Fig. 1) is 16 years of age, though her aspect would suggest that she was about 12. She was sent to the London Hospital for treatment by the Finsen light, it being believed that her condition was common lupus. She gave the following history. Five or six years ago she received a severe blow upon the nose from the fall of an iron pipe. The skin was not broken, but some months later an ulceration started at the inner canthus of the left eye. Under treatment this healed up. A little later the nose became much swollen, and an operation was done about three years ago for the removal of *dead bone*. From that time onwards pieces of dead bone have been removed from time to time. For several months the patient was an inmate of a provincial hospital, and later while attending as an out-patient she had some applications of the X rays, with the result that a portion of the ulceration at the periphery healed. About 12 months ago an ulcer appeared upon the right arm. Nine months ago a similar destructive ulceration appeared upon the forehead.

Family history.—The father is alive and well, the mother is dead. The patient has one brother, aged 36, and sisters aged 31, 27, and 20, all apparently well. The youngest child of the family, a boy aged 15, has had "sores" on the legs. Six other children are said to have died from "fits."

Condition on admission.—You will see that there has been extensive destruction of the nose, of which only a portion of the right ala remains. I especially call your attention to the fact that not only has the cartilage disappeared but also a large part of the bone both of the sides of the nose and of the septum. When the girl was admitted the cavity was in a very foul condition, the ulcerated areas being covered with pale greyish sloughs and muco-pus. You will also notice that there is a roughly triangular ulcer on the forehead extending from the eyebrows and root of the nose to beyond the hairy margin of the scalp. This was very dirty and was exuding a dirty pus. There are superficial scars upon each cheek, and on them are a few telangiectases such as one meets with in cases that have been submitted to the X rays. The right forearm is immovably flexed upon the arm, at about a right angle. Around the elbow and on the inner aspect of the limb are large irregular ulcers with raised margins, the bases being covered with dirty sloughs. (Fig. 2.)

The development of the girl is very poor. She is small for her age, and has a childish appearance. There is no enlargement of the liver or spleen. The eyes are unaffected, and the hearing is normal. There are no Hutchinson teeth. The Wassermann reaction is positive.

On Sept. 25th, 1913, she received an intravenous injection of neosalvarsan, 0·3 gramme, and was also put on a mixture containing potassium iodide. Four days later the ulceration on the forehead had very much improved and the ulcers on the arm were cleaner. On the 30th she received a second injection of neosalvarsan, 0·45 gramme, also intravenously. The improvement was remarkable, and on Oct. 2nd the ulcer on the forehead had almost healed.[1] A radiograph taken by Mr. S. Gilbert Scott showed that there had been severe damage to the elbow-joint, a damage which suggested severe trauma or advanced tuberculosis.

CASE 2.—This little girl is now 16 years of age, though she looks like a child of 11 or 12. She came first under my care in October, 1908, and I am showing the photograph of her condition then. (Fig. 3.) Her history is interesting. She had been attending at a dispensary for a long time for supposed tuberculous peritonitis, and had had the usual treatment. *Three weeks* before her admission to the hospital the nose began to swell, and rapidly ulcerated, the ulceration extending on to the upper lip. She was sent to me as a case of lupus for the Finsen light treatment.

Condition on June 16th, 1908.—There was an extensive ulceration which had destroyed the greater part of the nose. This ulcer had an irregular outline and its base was covered with greyish sloughs and dirty muco-purulent discharge. Extending from the under surface of the nose to the margin of the lip was another deep ulcer with raised margins and an irregular sloughy base. There was also a dirty ragged hole in the hard palate in the middle line.

The *family history* was instructive. There had been ten children, and six of these were alive. One infant was born dead, and three died within the first few months after birth. Three of the living children had had infantile eruptions, almost certainly syphilitic, and one had an ulcer in the roof of the mouth when 3 years of age. The mother attends here, and I may say in passing that she has a positive Wassermann reaction.

The little girl, in addition to the lesions on the nose, palate, and lip, had an enormously swollen abdomen. This was found to be due in part to ascites, but chiefly to an enlarged liver, which extended to the umbilicus, and a spleen which reached as low as the left iliac crest. These have now resumed their normal size.

The child was admitted into the ward and was treated by mercurial inunction (this was in 1908). In three weeks the ulcers on the nose and the upper lip had healed, but unfortunately left disastrous scars. The hole in the palate was a long time healing, as several pieces of necrosed bone came away during the year after she had been in hospital. There is now a large cavity, which at some time later may be closed by an obturator. The girl shows two characteristic Hutchinson teeth, but she is not deaf, and there is no interstitial keratitis.

CASE 3.—I am showing also photographs of another case, that of a boy aged 15, under my care

[1] In the ensuing fortnight all the ulcers had healed with the exception of a small area on the inner side of the right forearm. This has since cicatrised.

FIG. 1.—Extensive destruction of the nose and gummatous ulceration of forehead.

FIG. 2.—Left elbow showing ulceration.

FIG. 3.—Ulceration of a few weeks' duration.

FIG. 4.—Ulceration of lips and cheek of three months' duration. Hutchinson's teeth.

FIG. 5.—Rapid destruction of nose and lip. Gummatous ulcer of eyebrow.

FIG. 6.—Complete destruction of nose and palate.

FIG. 7.—Profile of patient shown in Fig. 6.

in 1908. He was the eldest of a family of five, his four sisters being quite well. The disease began on the right cheek with the formation of a "lump" which "burst" and discharged. Eventually the ulceration spread over the cheek as high as the outer canthus and lower lid and across to the middle line of the nose. It was scraped, and the boy had medicine; under this treatment the ulcer healed. *Three months* before admission a sore appeared upon the upper lip and gradually spread; *one month* before admission the lower lip began to swell and the swelling ruptured to form an ulcer which rapidly spread. (Fig. 4.)

On admission there was extensive scarring of the right cheek leading to ectropion, and the whole of the right ala nasi had been destroyed. The extent of the ulceration around the mouth is shown in the figure. Once more let me impress the point that this destruction of the upper lip had taken place in three months, and that on the lower lip in one month. There were characteristic Hutchinson teeth well seen in the figure. There was no interstitial keratitis and the hearing was normal. The abdominal organs presented no sign of disease. The bones were also unaffected. This case was also sent to the hospital with the diagnosis of lupus vulgaris.

The boy was treated by mercurial inunction, and 5-grain doses of potassium iodide. The ulcers were fomented and dressed with an ointment of peroxide of zinc. The inunction was continued for 16 days, when the gums were slightly affected. The ulcers had entirely healed in one month. The boy, I may add, gave a negative Calmette reaction to tuberculin.

CASE 4.—This is the photograph of another case of the same type. The patient was a girl, 16 years of age. She also showed the infantilism which I have mentioned in the first two cases. The eruption began when she was 13 years old, on the side of the nose, and gradually spread. She had attended a throat hospital, where an operation was performed. Six weeks before her admission an ulcer developed upon the left side of the upper lip, and about the same time a swelling appeared at the outer part of the right eyebrow, and this swelling subsequently broke down into an ulcer.

On admission the whole of the ala nasi on each side and the lower part of the nose had been destroyed, and the area was covered with dirty crusts of dried pus. There were a similar ulcer covered with crust at the left side of the upper lip and a large brownish crust, from the side of which pus was exuding, at the outer side of the right eyebrow. (Fig. 5.) There was a ragged hole in the hard palate. The tonsils, uvula, and the whole of the soft palate had disappeared. The upper incisor teeth were of the Hutchinson type.

There were no visceral complications, but there was interstitial keratitis in both eyes. The hearing was not affected. Under mercurial inunction and iodides the ulceration healed completely in 21 days. The lesions were dressed with iodoform ointment. The girl has been provided with a false nose, and this has improved her appearance remarkably. This patient was also sent to the Finsen light department as a case of lupus vulgaris.

CASE 5.—The last patient I have to present is one some of you may remember as being under treatment last year. He was admitted on Sept. 24th, 1912, and illustrates the extent of the deformity seen in some of these untreated cases. The history was that when the patient was 8 years of age he had a blow on the nose, and that 12 months later a "lump" which had formed "broke." Ultimately a huge cavity developed, the whole of the interior of the nose and the hard palate coming away with the formation of hard crusts. There was also an ulceration of the upper lip, the scars of which are well seen in the photographs. (Figs. 6 and 7.) He was sent to me as a case of lupus, there being still some discharge from the interior of the nose. The Wassermann reaction was positive. The patient had two injections of neosalvarsan, which speedily healed up an area of ulceration in the remnant of the nasal cavity.

Mr. F. M. Farmer kindly saw the patient for me with a view to providing some mechanical apparatus which could be made to supply the place of the palate, but this was impossible. A false nose and lip to replace the areas destroyed were the only possible method of improving the patient's condition. This has been provided by Mr. Brook, of Halifax, who had helped us in similar cases.

The points I wish specially to bring out in these cases are: (1) The patients are from 8 to 15 years of age. (2) A history of injury is common. (3) The rapidity of the destruction is quite unlike that met with in lupus vulgaris. Syphilis produced destruction in a few weeks which the tuberculous process takes years to accomplish. (4) The destruction of bone. I have seen many cases of lupus, but lupus does not destroy bone. It eats away cartilage but it does not cause necrosis of bone. The fact that the patient has noticed the presence of dead bone in the discharge from a nasal or palate ulceration is valuable evidence in favour of syphilis. Lastly, I would comment upon the remarkable response of these destructive lesions to antisyphilitic treatment, whether salvarsan, neosalvarsan, or mercury. In any case of doubt I would urge you, in view of the rapidity of the destruction, not even to wait for the Wasserman reaction, but to start antisyphilitic treatment at once. You will do no harm if the patient is tuberculous; you may do irreparable harm by waiting even for a few days if it is syphilitic.

GLYCOSURIA IN THE COURSE OF AFFECTIONS OF THE LIVER: HEPATIC DIABETES.

BY MARCEL LABBÉ,
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AND
AMBROISE BOUCHAGE, M.D. PARIS.

SINCE Claude Bernard's well-known experiments no one doubts that the liver plays an essential rôle in glycogenesis. Claude Bernard went so far as to say that the cause of diabetes was to be localised in the liver. After him many writers have said that the cause of diabetes, or at any rate of a certain class, was due to hepatic disorders. Lécorché held the opinion that this affection was due to an *exaggeration* of the hepatic functions. Seegen, Pavy, and Schiff admitted the existence of a hepatogenous diabetes. Glénard has laid great stress upon the lesions found in the liver in diabetes, and has attributed to them the prominent rôle in the causation of the disease. Lately Gilbert was of the opinion that there were two types of diabetes caused by functional hepatic disorders: one due to *hyperhepaty*, the other to *hypohepaty*. However, some writers, having frequently found the liver

untouched in diabetics, do not attribute to it such a preponderant rôle in the causation of diabetes. This being so, we thought it would be of some interest again to raise the question from a clinical point of view and try to determine the relations between hepatic disorders and diabetes.

We will consider the question under five headings: 1. The glycosurias that occur *during the course* of hepatic lesions. 2. The hepatic congestions in overfed people. 3. The post-infectious or toxic hepatic disorders. 4. The "diabète sans dénutrition" with enlarged liver of the overfed. 5. The hepato-pancreatic cirrhosis with severe diabetes.

1. *Glycosurias accompanying hepatic lesions.*—In cirrhosis and other lesions of the liver (cancer, cardiac liver) the glyco-regulator function is generally disturbed, but not sufficiently to cause what may be called diabetes. Most frequently the alimentary glycosuria test has to be resorted to in order to show the existing glyco-regulator trouble. Sometimes, in more advanced troubles, glycosuria is spontaneous, but intermittent, moderate in amount, and unaccompanied by other symptoms of hyperglycæmia. This form of glycosuria is more often seen at the beginning of cirrhosis of the liver than at a later stage. Several of our cases demonstrate the fact.

2. *Hepatic congestions in the overfed.*—People indulging in overfeeding, especially with meat, sometimes develop a glycosuria accompanied by hepatic congestion and disturbances in the functions of the liver. This type may be illustrated by the following cases.

CASE 1.—The patient, 29 years of age, had been losing flesh and strength for a year; he was suffering from lumbar pains, and he sought medical advice because he was afraid of phthisis. His complexion was subicteric, the tongue was dirty, and the stomach was dilated. He passed two soft motions a day. The liver was enlarged, measuring 14 centimetres in the mammary line; other organs sound. The urine was scanty (1 litre) and contained a large amount of total nitrogen (18¼ grammes) and of urea (35 grammes). There was a large excess of urobilin and indican present, and some traces of biliary pigments. Six grammes of glucose were found. The patient confessed that he ate too much meat. This was to be suspected from the analysis of his urine. He was placed on a lacto-vegetarian diet and on a Vichy water cure. In July he felt better. He passed 3 litres of urine per day, containing 7·8 grammes of total nitrogen, 15 grammes of urea, and small quantities of urobilin and indican. The glycosuria ceased; the liver was not so big and measured only 12 centimetres. During September the improvement was maintained. He had put on 2 kilogrammes in weight and there was no glycosuria. In December he was better. The weight had increased by 5 kilogrammes. The liver was smaller and measured only 11 centimetres. Later on the conditions were much the same. If the patient indulged in any alimentary excess, the hepatic disorders reappeared, the liver enlarged again, urobilinuria and glycosuria reappeared, and traces of albumin could be detected in the urine. These symptoms disappeared readily with a lacto-vegetarian diet.

CASE 2.—The patient, 34 years of age, after presenting some signs of tuberculosis in the lungs in 1900, was sent to the South of France for a rest, and there was submitted to a cure of superalimentation. Besides the ordinary diet he used to take every day 12 raw eggs, 700–800 grammes of raw meat, and to drink two small claret-glassfuls of cod-liver oil. Under the influence of this diet he improved and increased rapidly in weight.

In 1902 a fresh outbreak of tuberculosis forced him to overfeed again, since which he had eaten a good deal of meat. At the beginning of 1907 he had symptoms of muco-membranous enteritis. There were very severe pains in the upper part of the ascending colon that suggested appendicitis, and the advisability of an operation was considered. The urine was examined and glycosuria was occasionally found. The patient was then seen by one of us. The tongue was coated, there was a bitter taste in the mouth, and the breath was foul. Stomach normal; liver slightly enlarged. The urine contained some reddish-brown biliary pigment. The lesions in the lungs were apparently completely cured. A diagnosis of gastro-enteritis with congestion of the liver caused by overfeeding was made. A mixed light diet caused immediate improvement.

CASE 3.—The patient, 48 years of age, of sedentary occupation, was a heavy eater, and drank a considerable amount. His general health had been good. For some time he had been complaining of a dull sensation of pain in the lumbar region and had had œdema in his ankles. Examination of the urine revealed a slight amount of glycosuria and the existence of a reddish-brown biliary pigment. He was a rather stout man, and looked older than his age. His complexion was subicteric, and some signs of arterial hypertension were found. The liver was enlarged. A reduction in the amount of the diet quickly diminished the glycosuria. Under the influence of a lacto-vegetarian diet, exercise, and a Vichy water cure he lost some weight and felt more supple and fit. The glycosuria had disappeared in five weeks. The liver had resumed the normal size, and the arterial tension had also fallen.

The story was identical in all these cases. A subject indulges in overfeeding, especially with meat. Sooner or later supervenes a congestion of the liver with functional hepatic disturbances and glycosuria. The patient thinks he is diabetic. In these cases the glycosuria is moderate in amount and unaccompanied by the chief symptoms of hyperglycæmia. It is noteworthy that this glycosuria disappears at the same time as the other hepatic disorders under the influence of a lacto-vegetarian diet and a Vichy water cure—that is to say, under a diet and treatment that give the liver rest and excite the functions of the hepatic cell.

To treat this class of glycosurias with a meat diet and reduction in the amount of the carbohydrates absorbed would be simply a mistake. Far from curing the existing glycosuria, this diet, on the contrary, would increase it.

Such cases should not be called diabetes. Nevertheless, they are on the borderland of the disease, and if the patients had continued to overfeed perhaps some of them would later have become true diabetics.

3. *Post-infectious or toxic hepatic disorders.*—After acute infectious diseases a complexus of hepatic disorders accompanied with glycosuria that reminds one of diabetes is sometimes seen.

CASE 1.—The patient, 32 years of age, was suffering from suppurative tonsillitis with fever. At the outset of the symptoms she had epistaxis and vomited bile. In the last stage of the disease slight glycosuria accompanied with a large amount of urobilin, bile pigments, and ammonia was seen. For several days the urine contained reducing substances in large quantity. These symptoms then disappeared.

CASE 2.—The patient, 56 years of age, was asthmatic and dyspeptic. He ate much sugar. He was suffering from measles. During the course of that disease he lost flesh rapidly, and in the urine 5 grammes of glucose, 10 centigrammes of albumin, and some urobilin were found. The liver was slightly enlarged and tender on palpation. He was afraid of diabetes, though presenting no other symptom of hyperglycæmia besides the glycosuria. A mild lacto-vegetarian diet caused the glycosuria to disappear.

These facts can be explained as follows. An affection attacks the various functions of the liver, especially the glyco-regulator function. This will cause a glycosuria which as a rule is moderate in amount. There is here a slightly more advanced stage of what is seen in the course of acute infectious diseases in which the alimentary glycosuria

test usually shows the existence of glyco-regulator trouble.

Between a simple alimentary glycosuria and a post-infectious diabetes a series of transitory stages exist. It will easily be conceived that with a subject otherwise predisposed or already slightly affected a fresh infection will determine a true diabetes. One of us has given some illustrations of this fact.

4. "*Diabète sans dénutrition*" *with an enlarged liver in the overfed.*—This "diabète sans dénutrition" supervenes in those who are in the habit of overfeeding themselves, and is often accompanied with an enlarged liver and disturbances in the functions of that organ.

CASE 1.—The patient, 45 years of age, was a very heavy eater and took no exercise. The abdomen was large and fat. He had suffered from pains in the joints, apparently of a gouty nature, and had had renal colic. He had been a diabetic for several years. On an average about 100 grammes of sugar were now found in the urine. From time to time he had an attack of post-prandial biliary diarrhœa. The liver was slightly enlarged. The patient was of subicteric complexion. A diet with reduction of carbohydrates caused a rapid disappearance of the glycosuria and produced a slight loss of weight. At the same time the digestive troubles ceased.

CASE 2.—The patient, 51 years old, lived a sedentary life, ate a great deal, and drank one litre of wine a day. He was very obese and had weighed as much as 104 kilogrammes, but now he weighed 96 kilogrammes. In 1901, while suffering from furunculosis, he had an attack of glycosuria, passing 69 grammes of sugar a day. He was put on a special *régime*, and after a month's treatment he quite recovered. Later, however, the disease again manifested itself, and in spite of a mineral water cure he passed between 5 and 15 grammes of sugar a day. Digestion was slow. The liver was hypertrophied and reached below the costal margin. The urine indicated an overfed condition and contained 44 grammes of urea; 1·10 grammes of uric acid; 18 grammes of sodium chloride; and traces of albumin. On the diet being diminished the glycosuria and albuminuria quickly disappeared and the patient lost slightly in weight.

CASE 3.—The patient, 49 years old, ate and drank a great deal. He was obese and suffered from diabetes. When 39 years old, on being examined for life insurance, he was found to be passing sugar in the urine. This disappeared rapidly. When 46 years old, on being again examined, the amount of sugar in the urine was found to be 30 grammes a day, and in spite of careful diet the glycosuria persisted and varied between 30 and 60 grammes a day. The patient was obese, easily tired and out of breath, and complained of his mouth being dry. He went to stool twice daily, the motions being soft. The liver was enlarged, the anterior inferior border reaching 5 centimetres below the costal margin. The patient's complexion was subicteric. He suffered from hæmorrhoids, and the urine contained 41 grammes of glucose, together with urobilin and albumin. Being put on a reduced carbohydrate diet, the glycosuria disappeared after four days, the albumin was reduced to a trace, the patient lost a little weight, and his general condition was much improved. Subsequently the condition remained stationary. The liver was still hard and enlarged. The urine contained traces of albumin and urobilin. However, directly he altered or increased his diet a glycosuria amounting to several grammes made its appearance.

5. *Hepato-pancreatic cirrhosis with severe diabetes.*—Lastly, there is a group of diabetes connected with hepato-pancreatic cirrhosis. The *diabète bronzé* is of this class. Here the glycosuria is severe and accompanied by nitrogenous waste and often by acidosis; the hepatic cirrhosis is well marked; the cirrhosis of the pancreas is revealed by more or less marked signs of pancreatic insufficiency. Hence, in these cases there is a simultaneous evolution of a severe glycosuria and of a lesion of the liver and pancreas, but it is impossible to decide whether the liver or pancreas plays the first rôle in the pathology of the diabetes.

Such are the facts, and they show that in the course of hepatic affections one may observe every degree of glyco-regulator disturbance—from the simple alimentary glycosuria induced by the Colrat's test to the most characterised diabetes.

The boundary between diabetic glycosuria and non-diabetic glycosuria is difficult to determine. A hardly appreciable transition leads from one to the other. Arhard and Weil have shown that a certain class of arthritic people who have later on become diabetics began by presenting an alimentary glycosuria. Reciprocally, we have seen true diabetics who, after presenting the complete hyperglycæmic syndrome, when put on a well-regulated diet have only had a very small amount of glycosuria, and finally no glycosuria at all, except when it has been induced by an injection of glucose.

Is there any necessity to group some of those facts under the name of hepatic diabetes? By all means, for it is always possible to argue about that interpretation, since glycosuria is a sign of both hepatic insufficiency and pancreatic, thyroid gland, or nervous insufficiency. Besides, it seems very difficult indeed to say that of all the organs of the glyco-regulator system the liver is the only one attacked. However, it appears to us that the name of hepatic diabetes should be reserved for a certain class of cases in which the alteration of the liver is manifest.

This hepatic diabetes supervenes, as a rule, in heavy eaters. It is preceded often by obesity, sometimes by gout or renal lithiasis. It is a mild diabetes without any nitrogenous waste, corresponding to the classical type of the *diabète gras* or *arthritique*. It is accompanied by the usual manifestations of alteration of the liver: hypertrophy of the organ, subicteric complexion, and the presence in the urine of excess of biliary pigments, of brownish-red pigment, of urobilin, ammonia, and the amino-acids. The nitrogen index is low. Again, the patients may sometimes have hæmorrhages and disturbances due to blood coagulation.

The cause of this hepatic diabetes may be a general infection that attacks the liver, an intoxication such as by alcohol, which has an affinity for the liver cells. More often, according to our observations, it is due to overfeeding, especially on meat.

The glyco-regulator disturbance, as a rule benign, may be cured if the anatomical and functional integrity of the liver can be restored. This will show how important is the treatment of hepatic diabetes.

The treatment is chiefly directed to the liver, the basis being mineral water cure such as by the waters of Vichy, Brides, Carlsbad; hepatic opotherapy; lacto-vegetarian *régime*. While avoiding excess of carbohydrates, it is important to reduce the quantity of meat ingested, the chief cause of the trouble.

Major R. J. Blackham, R.A.M.C., honorary surgeon to the Viceroy of India, who is the Assistant Commissioner of the St. John Ambulance Brigade in India, was the recipient recently of an address of congratulation from the Bombay Corps of the brigade on his being created C.I.E. by the King. The address was enclosed in a beautiful and valuable silver casket.

A CASE OF DIABETES INSIPIDUS.

BY W. P. HERRINGHAM, M.D. OXON., F.R.C.P. LOND.,
PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

THIS uncommon disease occurs in two forms, a hereditary and a sporadic. Dr. William Bulloch[1] has collected all the known examples of the first. It is a condition which begins with life and does not shorten it. The amounts passed are enormous. In one family it has lasted through five generations. The second begins like diabetes mellitus without known cause, and sometimes suddenly. Eric Meyer[2] found that in his cases the addition of NaCl to the diet increased the excretion, though that of sodium phosphate did not. He supposed, therefore, that the kidneys were unable to excrete NaCl in any but a very dilute solution, and that the excess of water was required to dilute the NaCl.

When a case of the disease came under my care in St. Bartholomew's Hospital I took the opportunity of repeating Meyer's observations.

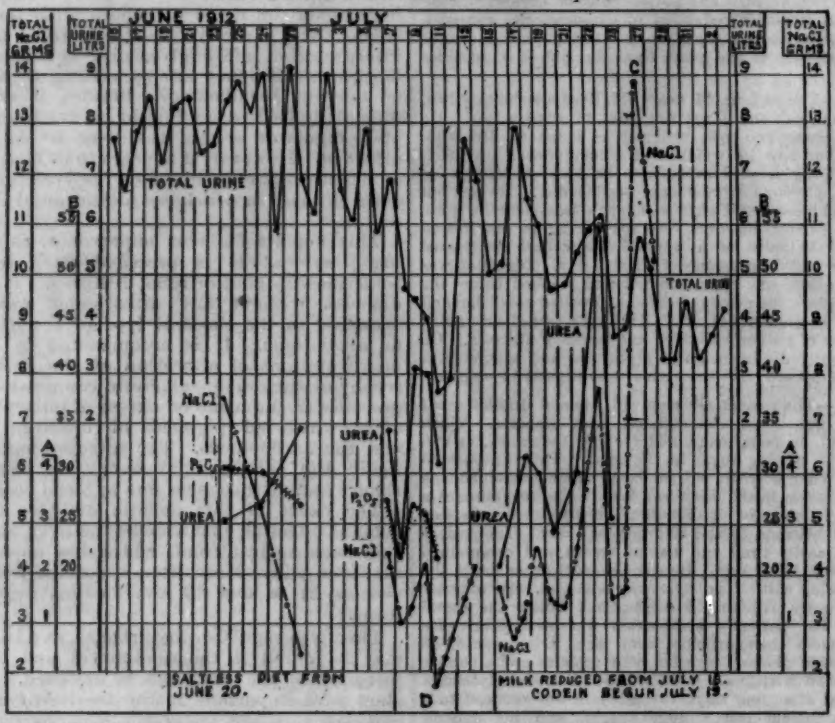
The patient, a youth aged 20 years, noticed about the last week in April, 1912, that he had dryness in the mouth and throat. He drank water in large quantities, and even at night, but the dryness and thirst became more marked. He lost some weight during this time. He had had no previous illness, and denied having had syphilis. The Wassermann test was performed on the blood after admission with negative result. The patient's father was alive and well, but his mother had died from pneumonia. Of seven brothers and three sisters, one brother had died in his seventh year, one sister had "paralysis," and the remainder were well.

The patient when admitted to hospital on June 12th, 1912, was thin, but of good colour, with eyes natural, tongue clean, teeth fair, and nothing abnormal in heart, lungs, and abdominal viscera. The pulse was 52–60, natural; artery natural; knee-jerks natural; plantar response flexor.

Period A, June 15–19.—An ordinary mixed diet was given. No restrictions were placed upon the fluids taken. The patient was allowed as much milk as he wished and took large quantities of it. No drugs were given. It will be seen that the amount of urine varies round about 8 litres. The specific gravity was 1002 or 1003; there was no albumin or sugar present. In these five days he took by the mouth 40·89 litres and passed 38·13 litres.

Period B, June 20–July 7.—The average having been established all salt was removed from the diet. The bread and butter were made without salt and no table salt was allowed. This was continued until the patient's discharge. It is evident from the chart that no diminution took place in the excretion of water. The excretion of NaCl showed no the three days June 24th, 27th, and 30th a progressive fall. It was therefore clear that the large excretion of water was not for the purpose of excreting NaCl.

Chart of Urine in the Case of Diabetes Insipidus.



A represents total P_2O_5 in grammes; B represents total urea in grammes; at C 20 grammes NaCl were given; at D water was restricted.

Period C, July 8–12.—There are, it is said, cases in which the excretion of water is large because the patient has formed the habit of drinking large quantities of fluid. This condition is termed "polydipsia," and can be stopped by preventing the patient from drinking to excess. In order to make the diagnosis clear the intake of fluids was restricted. On July 8th only 4200 c.c. were allowed, and on July 9th, 10th, and 11th only 3600 c.c. The effect was twofold. On the one hand, as might be expected, the output of water

[1] Treasury of Human Inheritance, 1909, Part I., p. 1.
[2] Deutsches Archiv für Klinische Medicin.

sank greatly; but, on the other, certain other symptoms appeared: he lost a considerable amount of weight, his thirst became very much greater, he completely lost appetite, and began to feel sick. I was convinced, first, that from whatever cause the system needed a large supply of water, and, secondly, that if I persisted in withholding it I might produce some untoward effect. It was not a mere polydipsia. Accordingly, on July 12th he was allowed to take 5400 c.c. of liquid. But he only passed 2910 c.c., the rest being evidently employed in restoring the tissues. On July 13th he was allowed to drink freely.

Period D, from July 16th.—Although it seemed to be proved that the excess of water was not related to NaCl excretion, I thought that it might depend upon that of some other salts. The phosphates and sulphates are largely derived from the nitrogenous constituents, and I therefore thought it worth a trial to diminish the latter. The patient was not eating largely of solids, but was taking as much as six pints of milk daily. On July 16th he was accordingly restricted to two pints of milk, the place being supplied by water. In all probability, however, little of the milk had been assimilated, for the drop in urea was not more than 10 grammes. The effect upon the excretion of water was not noticeable. Conversely the very large increase of urea on July 24th did not produce any increase of water.

Period E, from July 19th.—Codeine was begun on July 19th, and continued until the discharge of the patient. Under its use the amount of water excreted fell steadily until in the last week it averaged about four litres only. This was the only treatment that affected the excretion except the forcible deprivation of water.

Period F, July 27th.—In order to clinch the question of NaCl, I gave the patient on July 27th capsules containing 20 grammes of NaCl. During that day and the next he excreted 25 grammes NaCl. As the average of the four previous days was about 3·5 grammes, we may conclude that he excreted 18 out of the 20 grammes given. This is probably as much as a man in health would do in the time. He did it without perceptibly raising the water, for the natural fluctuations can fully account for the amount of the rise. The kidneys were capable of excreting a solution of NaCl of the concentration of 0·2457 per cent. (July 27th) instead of 0·07 or 0·09 per cent. as was usual.

What the pathology of such a case is I do not know. There was no evidence of any disturbance of the circulation. Neither hypertrophy of the heart nor rise of blood pressure was present. For such an amount of fluid to pass through the kidneys the amount of blood passing must also have been increased. But in the absence of increased pressure elsewhere this increase must have been produced by local vaso-dilation.

I could find no incompetence for the excretion of NaCl or other solid which might conceivably have produced such a dilatation of the vessels through some reflex mechanism. It remains, therefore, to suppose either that such an incompetence existed for some other solid, which I did not investigate, or that by some lesion of the central nervous system the renal vaso-constrictor nerves were paralysed, or the vaso-dilators stimulated. Section of the splanchnic, experimental and morbid lesion of the medulla, and certain cerebral diseases—such as epilepsy and hysteria—are known to produce this effect. It may be, however, that the increased output of water is itself a secondary matter, and that the primary disease is increased thirst.

Stephen Paget,[3] in an article on Cases of Voracious Hunger and Thirst from Injury or Disease of the Brain, argues for the existence of cerebral centres for these desires. No one can read the paper without feeling that his view has a good deal to recommend it.

The analyses were made for me by Dr. Mackenzie Wallis in our laboratory of chemical pathology. As it may be of use to others to have the exact figures I give them below:—

Date.	Total urine. c.c.	Urea.		P_2O_5.		NaCl.	
		%	Total.	%	Total.	%	Total.
June 24	8568	0·3	25·7	0·046	4·08	0·088	7·48
,, 27	9044	0·3	27·0	0·048	4·32	0·059	5·31
,, 30	6944	0·5	34·5	0·049	3·38	0·035	2·42
July 7	6888	0·6	34·0	0·05	3·45	0·064	4·42
,, 8	4676	0·5	23·5	0·05	2·35	0.064	3·01
,, 9	4508	0·9	40·5	0·075	3·38	0·074	3·33
,, 10	4040	1·0	40·4	0·08	3·2	0·105	4·20
,, 11	2610	1·2	31·2	0·09	2·36	0·068	1·768
,, 12	2910	—	—	0·04	1·12	0·082	2·38
,, 13	7640	0·3	22·9	0·045	3·44	0·047	3·57
,, 14	6820	—	—	—	—	—	—
,, 15	5030	0·7	35·21	0·06	3·02	0·082	4·19
,, 16	5170	0·4	20·8	—	—	0·07	3·64
,, 17	7850	—	—	—	—	0·035	2·73
,, 18	6530	0·5	32·5	—	—	0·047	3·06
,, 19	6010	0·5	30·0	—	—	0·076	4·56
,, 20	4720	0·4	18·8	—	—	0·076	3·57
,, 21	4810	0·5	24·0	—	—	0·07	3·36
,, 22	5420	0·55	29·7	—	—	0·082	4·43
,, 23	5910	—	—	—	—	—	—
,, 24	6200	0·9	55·8	—	—	0·123	7·63
,, 25	3694	0·7	25·9	—	—	0·094	3·46
,, 26	3980	0·6	23·9	—	—	0·093	3·71
,, 27	5683	0·45	25·3	—	—	0·246	13·94
,, 28	5100	0·6	30·6	—	—	0·222	11·32

Wimpole-street, W.

[3] Transactions of the Clinical Society of London, 1897, vol. xxx., p. 113.

AN OPERATION FOR THE FIXATION OF A MOVABLE KIDNEY.

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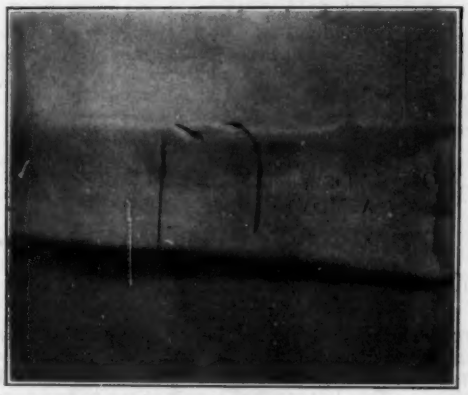
IN performing the operation of nephrorrhaphy it is important not only to fix the kidney securely but also to fix it as nearly as possible in its normal position. This latter point seems to me to be overlooked in the majority of the operative procedures practised for the cure of this condition, with the result that many of the patients complain afterwards of considerable discomfort, or even of actual pain, in the loin.

The usual incision for this operation is an oblique one close to and parallel with the last rib. The kidney is exposed so as not to open the peritoneum; the greater part of the perinephric fat is removed, and then, after partial decapsulation, the organ is stitched by some method or other to the margins of the wound. By this method the greater part, if not the whole, of the kidney becomes fixed in the space between the last rib and the crest of the ilium instead of lying well under cover of the ribs. As a result of this abnormal position the ureter tends to become kinked, and thus an obstruction to the flow of urine may be produced; and further, the kidney is exposed to the pressure of the patient's clothes, which in some cases is considerable, or in certain movements it may be caught between the lower ribs and the crest of the ilium. The pressure thus exercised may give rise to great discomfort, so that the patient's condition is not improved by the operation.

I have practised for some years a modification of this operation which I believe removes these objections, and which at the same time gives thorough fixation. An oblique incision is made below and parallel with the last rib, the muscles being carefully divided so as not to injure the last dorsal nerve. When the kidney is reached the perinephric fat is removed, so that the organ when in position lies in contact with the muscles. The renal capsule is next split from end to end along the convex border, and then stripped for about half its extent from the anterior and posterior surfaces of the kidney. The upper three-fourths of these two flaps of capsule are now folded back over the part of the capsule which has been left adherent, and are retained in that position by a few stitches passing from the free edge of the flaps to the adherent capsule near the hilus, care being taken not to injure the pelvis. These stitches prevent the flaps from slipping back over the denuded renal surface. Three fixation stitches of strong catgut are next passed through the ends of the flaps, which are still free, at the lower end of the kidney. In placing these stitches the needle is passed from within outwards, about half an inch from the edge, then over the edge and once more through the flap from within outwards. (See figure.)



From a photograph showing a fixation stitch passed through a piece of gauze.

By this means the part of the capsule in the grip of the stitch is twisted and puckered, and the tendency for the stitch to cut out is diminished. These stitches are not tied in the meantime. The kidney is now pushed back into its normal position, care being taken to place the upper pole behind the liver. If attention should not be paid to this point, especially in cases where the tissues are very lax, it may push the peritoneum in front of it and take up a horizontal position at the under surface of the liver. One end of each of the three fixation stitches is now passed through the muscles and fascia forming the upper margin of the wound, near its posterior angle, and tied as they are passed. The kidney now lies well under cover of the ribs, with its lower pole on a level with the upper margin of the wound. The cavity under the kidney is packed with gauze and a dressing applied. This packing is left undisturbed for six or seven days, but subsequently it is renewed every two or three days till the wound has closed. The gauze gives temporary support to the kidney and relieves the strain on the fixation stitches. By this method the kidney is fixed in its position by a broad band of fibrous tissue which has formed between its denuded surface and the posterior abdominal wall. The shelf of fibrous tissue which has replaced the gauze packing not only gives additional support to the kidney, but it fixes the colon to the abdominal wall.

Glasgow.

AN UNUSUAL SEQUEL TO CHOLECYSTECTOMY.

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I HAVE recently had under my care a case of gall-stones which I treated by cholecystectomy; quickly after the operation the patient developed a *biliary fistula and jaundice*, for which I made an anastomosis of the cystic duct with the duodenum; this was followed by a rapid disappearance of the jaundice and recovery of the patient. The case is, in my experience, so unusual and difficult of explanation that I venture to place it on record.

The patient was a married woman, 58 years of age, who was admitted to Middlesex Hospital under my care on Oct. 24th, 1913. Her history was that her only child was born when she was 40 years old, and after this event she was very weak, lost all appetite, wasted, and soon after she began to suffer with epigastric pain and occasional vomiting. She said that she was "extremely ill" for about 12 months. Then for a year she was fairly well; this was followed by a sudden severe attack of her old pain which "doubled her up," and this time she remained ill for four months. Then followed a period of ten years of fairly good health.

Five years ago she had a sudden return of severe abdominal pain, which was most intense in a spot in the right hypochondrium, but extended over the whole of the right side of the abdomen; with it there was a good deal of bilious vomiting. A medical man who saw her diagnosed appendicitis. This attack lasted four months. Since this she had suffered continually from indigestion, and for the last three years she had had repeated attacks of epigastric and hypochondriac pain. For this she gradually reduced her diet until during the last six months she had taken only fluids.

On admission the patient was found to be a pale frail woman, thin, not the least jaundiced, and she stated that at no time in her many illnesses had she been jaundiced. The abdomen was not distended, it was very rigid on the right side, and there was but little abdominal movement on respiration. There was acute tenderness just below the ninth right costal cartilage; the liver dulness did not extend below the costal arch, and owing to the abdominal rigidity it was impossible to feel the edge of the liver or to say whether the gall-bladder was enlarged. Her motions were dark brown in colour. The urine was pale, specific gravity 1012, free from albumin, sugar, and bile. Her thoracic organs were healthy. A diagnosis of gall-stones and cholecystitis was made, and it was decided to operate.

On Oct. 28th I opened the abdomen beneath the right rectus muscle and exposed the gall-bladder, which contained several calculi. I removed the calculi (11), and as the walls of the gall-bladder

were considerably diseased I excised it, after satisfying myself that the common duct was free. An enlarged gland which lay immediately below the neck of the gall-bladder was also removed. Neither in this nor in the gall-bladder was there any sign of growth. Some caseous nodules were found in the gland, but no giant cells. I put a ligature around the cystic duct, which was quite small, and closed the wound with a drain in the space formerly occupied by the gall-bladder.

On Oct. 31st it was noticed that there was a little bile escaping from the drainage-tube and that the patient was jaundiced; her stools were clay-coloured and the urine contained bile. The discharge of bile from the wound became very free, and the jaundice which was complete continued. I was at a loss to explain this unusual combination of symptoms and to connect it with my operation, unless I had left behind a stone in one of the hepatic ducts. So on Nov. 18th I reopened the wound and found the cut end of the cystic duct patent, and bile flowing freely from it. A probe passed easily into each hepatic duct, but I failed to detect a stone in either of them. I could not pass a probe along the common duct, but I could not detect any thickening or block in the duct in any part of its course.

Amid much that was uncertain there was one undoubted fact—that the bile was flowing freely from the end of the cystic duct—so I determined to deal with this by uniting the end of the duct to the duodenum. There was less than half an inch of the cystic duct left, I therefore did not enlarge its orifice by slitting up the duct, but making a tiny incision through the coats of the duodenum I united the cut end of the duct to it by a double row of sutures. The wound in the abdominal wall was then closed above and below a drain. For a few days there was a slight escape of bile; this soon stopped, and the wound healed soundly. On Nov. 20th the jaundice was noticed to be distinctly less, and a motion passed on Nov. 21st was dark brown in colour. From this time the jaundice rapidly lessened, the motions continued of a normal colour, and the patient left the hospital quite convalescent on Dec. 12th.

The interest of this case lies in the fact that a patient who for years had had gall-stones, but without jaundice, developed jaundice immediately after the removal of the gall-stones and of the gall-bladder, and that the jaundice was unrelieved by the free escape of bile from the divided cystic duct. It is clear that something occurred at the operation which produced an obstruction or obliteration of the common duct. This was not the displacement of a stone from the cystic duct into the common duct, for not only was no stone found at the second operation, but the cystic duct was of its normal size—just admitting a probe—and had evidently never been distended by the passage of a stone large enough to block the common duct. In this respect the case reminds me of a patient upon whom I operated three years ago. She had a cholecystotomy done by another surgeon some years previously. I was called to see her for recurring attacks of jaundice with fever and acute epigastric pain. Expecting to find a stone in the common duct, I operated and found dense adhesions in the midst of which I opened a dilated common duct; this was stenosed lower down, but I was able to trace the duct through the adhesions and restore the continuity of its two portions.

But far more interesting than the blocking of the common duct as a sequel to cholecystectomy is the association of deep jaundice and dark bile-loaded urine with free escape of bile from an external fistula. I can offer no satisfactory explanation of this, nor can I explain how turning the bile again into the duodenum sufficed to remove a jaundice which was not benefited by its external escape. I was greatly relieved to find that my second operation was successful in spite of any adequate explanation.

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TUBERCULOUS RHEUMATISM.[1]

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TUBERCULOUS rheumatism was first described by Poncet, of Lyons, and other French physicians, such as Bérard, Maillant, Bezançon, and Griffon, have reported cases from their own researches, but so far British physicians have not described the condition in detail. The articular lesions in infective diseases, such as gonorrhœa, dysentery, syphilis, pneumonia, &c., are quite different from the pseudo-rheumatic arthritic lesions observed in some forms of tuberculosis.

From an observation of over 6000 cases of pulmonary tuberculosis under my care in hospital and elsewhere, I have not met with a single case of tuberculous rheumatism—at least, it was not recognised as such; and although it is very common to see cases of tuberculous arthritis attacking one or perhaps more joints, it is most rare to meet with a multiple arthritis of the smaller joints in the hands, fingers, wrists, and ankles in the course of tuberculosis.

The subject of this paper is a young lady, aged 19, of healthy parents. She has several sisters, all of whom are healthy. I am told that she was always, as a child, very fond of milk, and drank large quantities. At the age of 13 she first developed tuberculous glands in the left side of the neck. These gradually spread down to the clavicle, into the submaxillary regions, and to the right side. The infection was slowly progressive, until both sides of the neck were much swollen and very painful. Her general health became seriously affected and she lost weight rapidly. Every remedy was adopted, but nothing seemed to check the infection. At last, five years after the first onset, the glands in the original focus showed signs of breaking down, and it was decided to open and remove the contents of all the suppurating glands. This was done by Mr. W. Thelwall Thomas, but it was impossible to remove any glands, so firmly were they fixed to everything in the neck. A month after the operation the patient developed a painless, rapid effusion into the right wrist-joint, followed in a week by a similar condition in the left wrist, and followed again by swelling of all the metacarpo-phalangeal joints of both hands. There was very little pain, but the temperature was high, 102° F. at night and 99° in the morning for 10 days. Salicylate of soda had no effect whatever either on the temperature or joints. The right wrist was aspirated and half an ounce of fluid removed. Very careful cytological examinations were made in order to detect tubercle bacilli, but none could be demonstrated.

[1] A paper read before the Medical Section of the Royal Society of Medicine on Dec. 16th, 1913.

I injected the fluid into a guinea-pig, and also into a rabbit. The guinea-pig developed tuberculosis in four weeks, and showed a progressive tuberculosis extending to all the organs. Cultures were made from the spleen of the guinea-pig on Dorset's egg medium, and a growth corresponding to bovine tuberculosis obtained. The rabbit also developed a tuberculosis, although of not so progressive and severe type as the guinea-pig, and similar cultures were made from the spleen and liver of the rabbit. These cultures also showed the bovine characteristics.

An emulsion was made from the contents of one of the tuberculous neck glands and injected into a guinea-pig and also into a rabbit. Both animals developed in seven weeks a generalised tuberculosis, and cultures made from their organs were typically bovine in appearance. The stained tubercle bacilli showed nothing of a distinctive character.

It was clear that we were dealing with a primary infection of the neck glands with the bovine bacillus, probably conveyed through milk and absorbed from the tonsils and pharynx. The secondary arthritic infection was evidently through the blood stream. The von Pirquet reaction was most violent. There was no affection of the lungs or pleuræ.

Six weeks after the onset of joint symptoms the skin of the legs and feet became red, swollen, and brawny, and numerous bullæ appeared which soon ruptured, discharging greenish pus. Some of these appeared on the arms; after healing a dark brown stain was left on the skin, which still remains.

On the subsidence of the acute symptoms I commenced a course of tuberculin T.R. (human) in very small doses, to commence with 0·0001 mgm. The injections were given weekly in increasing strengths to a maximum dose of 0·01 mgm., and I am glad to say with most welcome result. The glands have subsided to half their previous size, whilst the joints have become smaller and more movable, although they are still stiff, but painless. The local reaction of the tuberculin at the site of injection is very marked and persists up to the present time. We can only hope that further progress will be made, as she is not yet by any means out of danger.

Examination of the fluid from the joints revealed an excess of lymphocytes, which is, of course, in favour of tuberculosis as opposed to polymorphonuclear leucocytosis, which occurs in true rheumatism.

I have only seen three cases of this rare condition. The first was in Washington, America, in 1908, and occurred in a boy, aged 14, who was suffering from tuberculous neck glands with secondary pseudo-rheumatism in both hands and wrists. His joint symptoms entirely passed off after the glands were removed and a course of tuberculin administered. The second case I saw in Berlin this year at the Rudolph Virchow Hospital, and occurred in a girl, aged 17, suffering from tuberculosis of neck glands and lupus. The third case I have just described.

It is of interest to note that these three cases were all secondary to a primary tuberculous focus in the neck glands, which is, in my opinion, almost always caused by the bovine bacillus, and I can find no record of tuberculous rheumatism occurring in the course of pulmonary tuberculosis which is most frequently the result of infection by the human bacillus. It would seem, therefore, that the bovine bacillus is much more likely to find its way into joints, and also into the blood stream, than the human bacillus, which is generally limited in its action to the lungs, larynx, and intestines.

Professor Dieulafoy divides tuberculous rheumatism into two divisions: (1) primary, and (2) secondary. He mentions a case of recovery from a primary infection, but does not record any case occurring in the course of, or preceding, pulmonary disease. Bentz, however, records two cases in which the initial lesions, Pott's disease and osteitis of the tibia, remained active, while the joint troubles disappeared without ending in definite articular tuberculosis.

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Liverpool.

BULLET WOUND OF THE SPINE:

A CASE OF MEDICO-LEGAL INTEREST.

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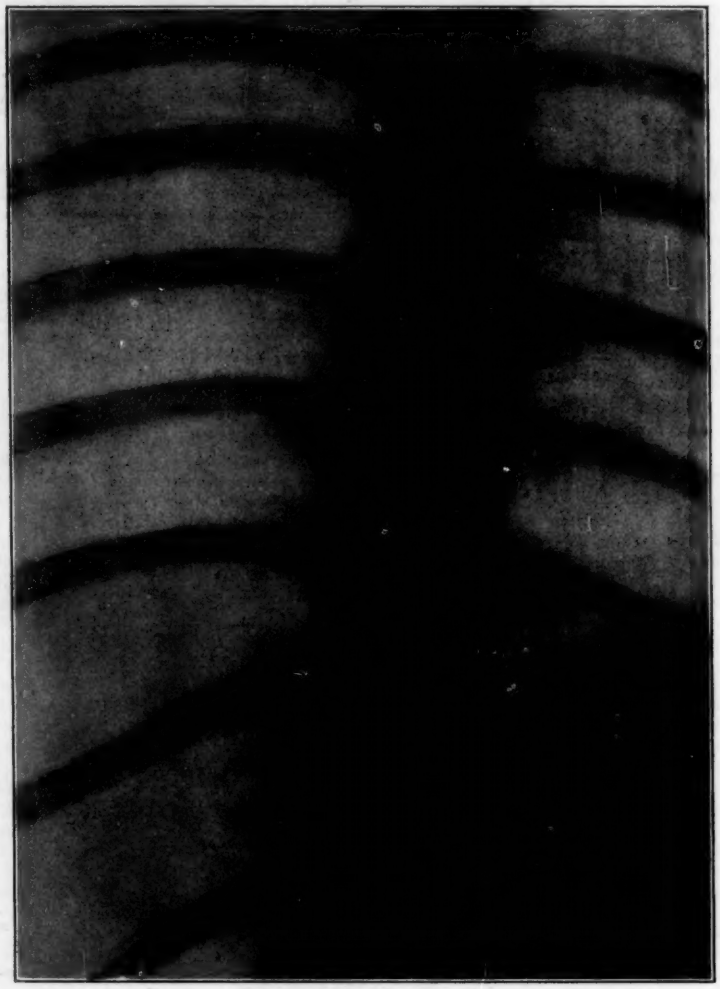
ON Saturday, the 18th of October, 1913, two people, a man and a woman, were found shot in a London hotel, and Dr. J. R. Ryan and Dr. T. M. Ness were summoned to see them. They telephoned me, and I saw the patients not long afterwards in consultation with them. When the patients were first seen, after the door had been opened with a pass key, they were lying in parallel beds, placed closely together, and the man occupied the one to the left of the woman. The beds had to be separated to permit the wounds to be examined. The man was the more seriously injured of the two, and when I saw him he was lying on his back, and showed symptoms of severe shock. By his side, parallel with his right hip, outside the bed, at about the length of the arm, was a small revolver, the butt end of which was turned towards him, whilst the muzzle pointed downwards. It was placed in such a position that if he had put it there himself he must have placed it with care, and with the hand supine. Dr. Ness assured me that this weapon had not been moved since he had entered the room. Alarm was first excited in the hotel by the sound of two shots in quick succession.

Examination of the male patient showed a round bullet wound, the edges of which were burnt by the close discharge of the weapon. There was no wound of exit. The wound, which had not bled very much, was situated on the left side of the middle line, about an inch and a half below the nipple and about an inch to the inner side, and had penetrated the chest through the intercostal space. There were loss of respiratory sounds and hyper-resonance on this side. His pulse was small and very rapid, but he had no dyspnœa. There had been no hæmoptysis. The wound was cleansed with an antiseptic and dressed. A hypodermic injection of morphine was given, and later in the day, when his shock had passed off to some extent, he was transferred to St. Thomas's Hospital.

The woman, who was very excitable, was not much injured; the bullet had entered over the left lower rib about the anterior axillary line, and came out again about an inch and a half posteriorly in the same plane. The wound of entrance was marked with the powder and was exactly like that in the man. She was also transferred to St.



From a skiagraph showing position and size of bullet in the spinal canal (Dr. A. D. Reid).

Thomas's Hospital, where she rapidly recovered. Nothing abnormal was detected on examination with the X rays. The weapon was a small Browning repeating pistol, firing a bullet the size of the one shown in the skiagram.

The man continued in a very low state after admission, and it was found that he was unable to move his lower limbs. He had retention of urine. There was complete anæsthesia below the waist and entire loss of reflexes. The bullet was seen with the X rays, but this examination was unsatisfactory. As the condition of the man prevented full exposure it could not be definitely localised. It was, however, lying to the right of the middle line in the spinal region. As there was still a very rapid pulse with some hæmorrhage from the wound, he was placed under an anæsthetic in the evening. The wound was opened up and the lung examined. There had been very little hæmorrhage into the pleura; the wound of the lung could be easily seen, but the lung was collapsed and the pleura full of air. The pericardium which was immediately to the right of the wound was uninjured. The edges of the wound in the intercostal space were pared and the opening closed with sutures. There was a gradual improvement in the condition of the chest and the general state of the patient, but none in that of the paraplegia. Dr. A. D. Reid then carefully examined the patient with the X rays, and gave it as his opinion that the bullet was lying in the spinal canal at the level of the seventh dorsal vertebra (see illustration). On the chance that its removal might be of benefit in the relief of pressure, laminectomy was performed on Nov. 2nd and the bullet was removed. It was lying between the dura mater and the vertebra to the right of the middle line. No irregularity of the bone could be felt or seen. The bullet was not in any way fixed, and was easily lifted out when the cord had been retracted to the left. It had not lost much metal, being but slightly flattened at the tip as if it had been deflected by bone or something of a hard nature. The cord was evidently much bruised. Pulsation was visible to the level at which the bullet was lying, but not below that. The patient stood the operation very well and the wound healed satisfactorily. He thought that sensation improved in both legs, but the paralysis did not get any better. Retention with overflow was only prevented by catheterism, and cystitis developed, from the effects of which he died on Nov. 21st at 9 P.M.

No post-mortem examination was permitted and a verdict of suicide was returned by the coroner. The radiograph, which is an excellent one, enabled Dr. Reid to say that the bullet was lying in the spinal canal, at the level of the seventh dorsal vertebra, and it was exactly as he stated. As there was no trace of bone injury or splashes of lead on the bones, did the bullet enter the spinal canal by the intervertebral foramen and turn up? To gain this point did it travel along the inner aspect of the ribs, or pass direct to the foramen which was penetrated?

Questions which present themselves for solution are, Did the man shoot the woman and himself, as he stated? If the man shot himself, how was it the bullet was lying so much to the right of the wound of entrance that it was removed from the right side of the spinal canal? Would any healthy man lying in bed naturally place a revolver in such a position as that in which this one was found? Could a man who had received such a severe mental and physical shock place the weapon so? Is it probable? The shortness of the interval between the two reports makes it unlikely that the weapon changed hands.

These are the questions which would naturally present themselves in any medico-legal examination of the facts, but such examination was considered unnecessary in view of accompanying circumstances and the man's confession.

Harley-street, W.

NASOPHARYNGEAL AND CERVICAL GLANDULAR TUBERCULOSIS IN CHILDREN.

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Physicians and surgeons, more particularly those connected with a hospital for children, are confronted daily with cases of this nature. Our views on the subject are based on the experience gained by the treatment and observation of a large number of hospital cases, and a not inconsiderable number of private patients. We consider the subject from the following points of view: (1) Etiology and pathology; (2) clinical course; (3) prophylaxis; and (4) treatment.

Etiology.

In children under 1 year. During the early months of the first year of life tuberculosis is a comparatively rare disease, but in cases in which it occurs it is often in relation to the structures of the middle ear. In children under 6 months of age middle ear and mastoid tuberculosis is relatively common. It may be suspected from three clinical signs and symptoms: (1) a watery discharge from the middle ear; (2) a soft, boggy, painless swelling over the mastoid process; and (3) facial paralysis. Facial paralysis coming on in a child under 6 months of age, unaccompanied often by discharge from the external auditory meatus, or by perforation of the tympanic membrane, or by external evidence of mastoid disease, is almost a pathognomonic sign of extensive tuberculous disease of the Eustachian tube, middle ear, and mastoid process. This fact is very important. A soft swelling, usually painless, which is somewhat diffuse over the mastoid process and causes the pinna to bulge forward, is equally suggestive of tuberculosis. In such a case there is often no discharge from the external auditory meatus. We have never seen such signs present in a child of this age who was *solely* fed at the breast. We are bound therefore to correlate the occurrence of such early tuberculous infection with the practice of artificial feeding, and, more particularly, with feeding with cow's milk. There is a marked predilection for the infection to affect the middle ear and the temporal bone, and it seems to us that this is explained by aspiration up the Eustachian tubes during the act of sucking. It is certain that as the child gets past the age of sucking, mastoid and middle-ear infection become less common, and the disease attacks other regions of the nasopharynx. In these cases the tuberculous infection is often very acute and virulent. If, however, the disease remains limited to the mastoid process and does

not spread either to the cervical glands or cranial cavity, the prognosis is a good one. We would therefore draw attention to the facts that tuberculosis affecting the nasopharynx in children under 1 year of age, and especially those under 6 months, has a strong predilection to spread up the Eustachian tube, and that it invariably occurs in children fed with cow's milk.

Large hospital experience of glandular tuberculosis in children over 1 year has proved to us that one gland or set of glands in the neck is more liable than any other to be the site of infection. This gland is situated in a definite anatomical triangle in the upper part of the neck. It lies immediately below the posterior belly of the digastric, and between the internal jugular and common facial veins. It is the central point of conveyance of a large number of lymphatics. These are, indirectly, the auricular, the facial, and the submaxillary, but above all it is the gland which receives directly the lymphatics from that part of the nasopharynx which includes the tonsil. It has also intimate connexions with two other sets of glands: (1) half a dozen round the spinal accessory nerve as it enters the sterno-mastoid muscle; and (2) the carotid set, passing down in relation to the carotid sheath. It is important to understand these anatomical facts in order to realise the course of tuberculous infection in this region of the body. Why should this gland (jugulo-digastric) be more liable to infection by the tubercle bacillus than any other in the body? We must realise that it is almost invariably a secondary infection. Where, then, is the primary focus? Some years ago one of us (E. W. S. C.) examined the pharyngeal tonsils in a series of cases of glandular tuberculosis. Casual sections were made of the tonsil on the side on which the glands were proved to be tuberculous after operation. In nearly 20 per cent. of cases the tonsil was found to be the site of tuberculous infection. It was only natural to suppose that a more careful examination by means of serial sections of such tonsils would show a still greater percentage of tonsillar infection, and such has proved to be the case from the recent work of Stiles and Mitchell. Tuberculous infection of the tonsil, therefore, is now known to be extremely common, and we must refer to its pathology in order to understand the course of events in the common form of the disease.

Pathology.

Primary infection: tonsillar tuberculosis.—Tuberculous infection of the tonsil does not cause ulceration of its surface: we have never seen a case of tuberculous ulceration even in tonsils which were the seat of advanced tuberculosis. In our experience tonsils which are the seat of extensive tuberculous infection are not hypertrophied tonsils, but are, on the contrary, often small, ragged, and atrophic. Tonsillar tuberculosis is chronic in type and leads to fibrosis and shrinkage of the tonsil. It rarely causes caseation to such a degree as to lead to breaking down of the tonsil. In the early stages it begins in the form of one or two giant cell systems round the bottom of the tonsillar crypts. These gradually extend into the substance of the tonsil until the whole or part of the gland has become invaded by the disease. It is probable that the tonsil is often tuberculous months or even years before the disease spreads beyond its substance. When the disease reaches the outer boundary of the tonsil it sets up a peritonsillitis, which is often somewhat acute in character. It is not perhaps going too far to say that many of the cases of acute tonsillitis so-called, which are ultimately found to be associated with tuberculosis of the corresponding glands, are really peritonsillar infections, and due to the spread of the disease beyond the tonsil. We have seen numerous instances where an attack of acute tonsillitis has led to the discovery of an advanced glandular tuberculosis.

Secondary infection: glandular tuberculosis.—Tuberculous infection in a gland begins as isolated foci which are often of different ages and stages of development. On examining such a gland removed at operation these multiple foci are seen distinctly, and consist of a caseating or calcareous centre with a surrounding capsule of fibrous stroma. When the tuberculous condition is progressive these foci continue to grow, and sooner or later one reaches the surface of the gland, involves its capsule, and sets up an inflammatory condition around the gland (periadenitis). This may follow one of two courses: (1) The periglandular tissue becomes congested and œdematous. This leads to extensive swelling which persists for some weeks and finally subsides. (2) This process does not resolve but passes on to the formation of an abscess outside the gland, which ultimately makes its way to the skin surface. In a large number of cases the periadenitis subsides, but another similar attack is liable to occur, and frequently recurring attacks end sooner or later in abscess formation. It is interesting to note that these recurrent attacks of periadenitis are not due to mixed or septic infection, and we would emphasise the resemblance in this respect between periadenitis and peritonsillitis already referred to. One of us (E. W. S. C.) has examined the pus and tissues from these cases of periadenitis on several occasions, and has failed to demonstrate the presence of any pyogenic organisms.

Clinical Course.

The following are examples of cases.

CASE 1.—A female aged 6 years. She was a healthy baby of healthy parents, and was brought up on the bottle and given large quantities of milk and cereals early. Purely pap feeding was continued through the second year, and no animal food was given other than milk or an occasional egg. Digestion and health were generally fairly good. When 2½ years old she suffered from acute tonsillitis. A throat-swab showed streptococci. The cervical glands on one side of the neck rapidly enlarged and became matted by periadenitis. In the course of about 10 days the throat condition had largely subsided, but in the neck a lump of the size of a small orange remained. In spite of general treatment glandular enlargement persisted. The tonsils were not markedly enlarged, but were ragged and unhealthy-looking. Operation on the tonsils or on the glands was refused. The child continued in fairly good though uncertain general health. An excessive carbohydrate diet was persisted in and the mass of glands gradually softened. When aged 6 years, along with pharyngeal catarrh, the enlargement rapidly increased and a large abscess was developed which threatened to rupture externally. On operation being performed extensive tonsillar tuberculosis, with a large abscess and numerous broken-down tuberculous glands in the neck, was found.

CASE 2.—A female aged 4 years. She was taken ill suddenly with influenza. She had a high, swinging temperature, sore throat, and greatly enlarged tonsils, with numerous white patches on the surface. A throat swab showed streptococci. On recovery from the acute attack the tonsils and adenoids were removed and found to be tuberculous. Six months later as a mass of glands remained on one side of the neck it was removed and found to be tuberculous.

CASE 3.—A male aged 18 months. He was a healthy baby at birth. He was brought up on the bottle and fed largely on patent foods and medicated milk. He had constant digestive difficulties, and developed slight rickets, with distinct symptoms of the presence of adenoids and unhealthy-looking ragged tonsils. At the age of 14 months he developed acute tonsillitis with great enlargement and matting of glands on one side of the neck. Two months later excision of adenoids and tonsils showed tuberculous infection throughout.

Such are common and typical cases of apparent acute outset. But the occurrence of sore-throat and acute and marked glandular enlargement is no evidence of the period of onset of the tuberculous infection, and in most cases the tonsil has probably been the seat of a latent tuberculous infection for some considerable time previously. Generally speaking, the younger the child affected the more acute is the course of the disease. When the disease runs throughout a chronic course we take it that the course is nevertheless similar to that in an acute case. The difference here is that the conditions of peritonsillitis and periadenitis are slighter and may not be recognised clinically. The first evidence of the presence of disease is then the appearance of a single mobile gland in the side of the neck. This gland may lie latent for years, and, beyond a slight variation in size from time to time and an occasional slight attack of periadenitis, it does not attract much attention. A focus in its substance, however, may at any time become active and lead to the formation of an abscess.

Prophylaxis.

Tuberculous infection of the tonsils and cervical glands occurs in cases in which, apparently, every rational method of procedure has been adopted. Often, however, it is far otherwise. It is not our object at present to direct attention to the infecting agent—the tubercle bacillus. Suffice it to say that, however large or however small a proportion of cases it may be which are infected by the bacillus of bovine origin, it is always wise to give only *scalded milk* to a baby during the first two years of life. Prevention otherwise naturally consists in the maintenance of good general nutrition and of a healthy condition of oral and nasopharyngeal tissues. For the attainment of these ends two factors are of great importance—diet and oral hygiene.

The foundation of tuberculous disease of the cervical glands is over and over again laid in the manner of infant feeding. Unsatisfactory digestion, imperfect nutrition, eructation, vomiting, and consequent nasopharyngeal catarrh ensure a suitable nidus for infection. The advantage to a baby of receiving his mother's milk is too obvious to need more than remark. If he is not suckled he should receive during the first two years of life no cow's milk which has not been scalded. He should be fed on fixed quantities at definite intervals. This is the most important rule in infant feeding, and the one which is generally most necessary to emphasise. Within reason the actual composition of the food for a healthy baby is much less important. Cow's milk, condensed milk, patent foods—babies thrive well on all or any of these. Some are better than others, but most healthy babies would thrive on any if judiciously handled. But irregularity and uncertainty in time and amount of feeding are always dangerous, and usually have disastrous results. Irregularity of feeding times nearly always means feeding at too short intervals, and uncertainty of the requisite amount at each feed usually ends in overfeeding. In both cases regurgitation and often vomiting tend to occur. Catarrh of the pharynx is set up, and in association with disordered digestion and its effects on nutrition, a favourable locus is provided for infection. For the same reason cereals or patent foods containing unaltered starch should be avoided as a rule during the first six months of life.

The commencement of primary dentition—the latter half of the first year—is a period of great importance from the dietetic point of view. Starch now is a valuable element in the diet, the chewing and gnawing of hard food has to be encouraged, and simple animal food, such as gravy, clear soup, and lightly boiled egg, has to be gradually included in the diet sheet.

We would emphasise the importance of accustoming the baby to gnaw a tough crust or a thick, strong bone. Oral hygiene largely consists in facilitating the cleansing of the mouth by saliva, and by no means can this be better attained than by such gnawing and chewing. During the second year considerable variety of food is good, hard food is useful, and meat becomes an important element of the diet.

Here we would lay stress on a prevalent misconception regarding the value of meat in the diet of young children. Constantly we see otherwise healthy children suffering from indigestion due to overfeeding with bread, porridge, potatoes, biscuits, cakes, sweets. Comparatively rarely do we see indigestion due to excessive meat-eating. Most certainly a large amount of meat in the diet of a healthy young child is likely to cause digestive trouble. But the point is that an adequate supply of flesh meat and fish in the daily diet is not only beneficial, but is, as a rule, necessary for the maintenance of health. During the first half of the second year the child should get this animal food in the form of egg, bacon, or fish. Thereafter he should be given daily at dinner a little chicken, rabbit, or butcher's meat. We consider that deficiency of animal food—in the shape of meat, fish, and eggs—in the diet, along with the common coexistent carbohydrate dyspepsia, is a widespread and important underlying factor in the development of various infections, and is more particularly one of the primary causes of the vast amount of cervical glandular tuberculosis.

Treatment.

As has been indicated, the onset of obvious enlargement of the glands is often sudden. The child is seized with a general illness of the nature of a "cold" or influenza, there is acute pharyngeal catarrh and often marked tonsillitis, and coincidently there is glandular swelling in the neck. With ordinary mild antiseptic local treatment the acute condition in the throat subsides in the course of a few days, but the glandular enlargement remains. Von Pirquet's reaction is strongly positive. There is a mass on one side of the neck of the size of a small orange and adherent to the surrounding tissues. The mass is firm and at first tender on manipulation. On the other side of the neck there are usually one or two small firm discrete glands to be made out on careful palpation. Under no circumstances should operative interference be carried out when peritonsillitis or periadenitis is present. Surgical interference is only indicated after or between such attacks.

The first and obvious procedure is to seek to

remove the acute periadenitis by means of boric poultices or ichthyol (20 per cent.) applications locally, and to paint the throat with a mild antiseptic (boroglyceride). As the condition improves the tenderness disappears, the glands appear firmer and more readily movable, and the mass shrinks to some extent. During this period no other routine medical treatment should be employed and tuberculin should certainly be avoided. The general health of the child, however, requires careful attention. Often it is quite good, but sometimes there are want of appetite, lassitude, and various signs of disturbed metabolism. Usually, however, there is no swinging temperature. Four to six weeks after the onset of the condition the tonsils and adenoid tissue should be removed. This should be done in every case, whether there is apparent enlargement or not.

Following on this operation the child should be ordered a change of air for about two months. If it is summer-time and the weather warm the sea coast is suitable, but as a rule an inland part of the country at some height is better. During this time the child is in the open air as much as possible, is given plenty of simple food at regular intervals, and in particular receives a sufficiency of animal food. As a matter of routine the administration of tuberculin is inadvisable. If the child can be given all the stimulating and invigorating advantages which accrue from a suitable change of air and scene and a well-regulated diet, tuberculin gives nothing more. If, on the other hand, the best environment in all respects cannot be obtained, tuberculin is of value. Tuberculin T.R. is given in small doses every tenth day. For a child of 2 years one begins with a dose of 1/8000th of a milligramme and increases to 1/6000th; for a child of more than 5 years one begins with a dose of 1/6000th and increases to 1/4000th. The attempt is to avoid any general reaction. At the end of two months—i.e., between three or four months after the onset of the acute condition—the question whether or no operation is advisable should be decided. In all cases, however, where before this time there has been evidence of active disease as shown by recurring attacks of periadenitis, operation should be advised. This is particularly the case when the tonsils have been found to be extensively diseased.

The younger the patient the more active the disease as a rule, and the greater the need for surgical interference. If there is a definite history of family predisposition to tubercle infection, and, more particularly, if a member of the household suffers from tuberculosis, and if the glands have not distinctly shrunk, they should be removed at once, irrespective of the general condition of the child. The probability in such cases is that sooner or later they will break down. If there is no such history, however, if the general condition of the patient is not quite satisfactory, and if the glands show no distinct signs of shrinking, or if the disease is spreading to the spinal accessory or carotid set of glands, or if there are signs of abscess formation—again operation should be advised at once. If the general condition is good and the glands are distinctly smaller, operation is not advisable, and there is good ground for the hope that, under a careful regimen, the condition will undergo a natural cure. If the general condition is not quite satisfactory, but the glands are rather smaller and firmer, or, again, if the general condition is good but the glands are not distinctly smaller, a course of tuberculin should be employed for a further period of at least two months. If at the end of six months from the acute onset, in the one case the general condition is still unsatisfactory, or in the other the glands are still markedly enlarged, they should be removed. In cases, chronic from the commencement, where a gland persists for more than a year and tends to get larger, its removal is desirable.

MODERN TREATMENT OF LACRYMAL OBSTRUCTION.

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THE recent discussion at the annual meeting of the British Medical Association on the treatment of lacrymal stricture appears to have been of little practical value, for it has left us in much the same state as we were in before. My object in writing this paper is to appeal to ophthalmic surgeons for a wider trial of rational lines of treatment in cases of lacrymal duct obstruction.

For many years ophthalmic surgeons have been satisfied with the old-established method of probing; but of late years there has been a growing tendency to resort to other methods. The large number of lacrymal sacs that are now excised annually bears eloquent testimony to the unsatisfactory results from probing. Undoubtedly probing does at times meet with brilliant success, but such cases cannot be frequent, else why this wholesale excision of sacs? The reasons for the failure of the various probing methods are numerous. Amongst them is the tendency for the stricture to close, necessitating repassing of probes at intervals for years, or at any rate until the patient gets tired of the treatment. Let us think for a moment what is likely to happen in the passage of a full-sized probe. A certain amount of force, more or less, is used, and this must in all probability actually denude the lacrymal canal of its mucous membrane at the point of greatest pressure. We cannot even be certain that the probe does not pass through a tear in the mucous membrane and for the rest of its course pass down between the mucous membrane and the bony wall of the canal.

Compare the conditions to be found in a case of urethral stricture. There we know that fibrous tissue replaces the ordinary mucous membrane, and after the relief of a tight stricture by the passage of bougies it is recognised by surgeons that the cure is not permanent, but the patients are usually instructed to present themselves at regular intervals for the passage of bougies. Neglect of this advice sooner or later results in a recontraction of the stricture. How can we expect the lacrymal canal to differ in its course and progress when treated on the same lines?

The use of styles following probing has had a good many advocates. They do not always relieve, in many cases they are a source of discomfort, and in not a few cases have patients presented themselves at the hospital with marked cellulitis of the tissues round the orbit due to a forgotten style, which in some cases had been there for years and was extracted with difficulty.

I now pass on to the question of the extirpation of the sac, the various methods for which are numerous and need not be discussed. In favour

of this method, which, indeed, is a great advance on probing, is the fact that it shortens treatment; it is an effectual preventive of those suppurative affections of the sac which frequently follows stricture. It is, however, a mutilation, and from that point of view an unsurgical procedure in the highest sense of the term. But in saying this I do not deny that many cases are best treated by extirpation of the sac; among such one would mention tuberculous disease of the sac or those in which a bad fistula was present in patients advancing in age. Against it also has been urged the statement that infectious conditions of the conjunctiva are more frequent, more difficult to cure, and more liable to relapses after removal of the sac. I do not know on what evidence this statement has been made, but certainly in my own comparatively small number of cases in which I have removed the sac I have never had to treat infectious diseases of the conjunctiva of the corresponding eye. And here it will be appropriate to allude to a case of congenital bilateral absence of the puncta in a youth under my care. So far as can be ascertained he has never suffered from any inflammatory affections of his conjunctiva. Undoubtedly, therefore, there are many cases in which extirpation of the sac is the wisest and best course to pursue, though I believe that it is a procedure which should be only undertaken after a very careful and comprehensive survey of each individual case, and I believe that as our experience ripens we shall find that fewer and fewer sacs will be excised and that more rational and surgical lines of procedure will be followed.

The ideal treatment is, of course, to restore as far as possible the natural drainage of the sac. The best means by which this can be done at the present time appears to be the method elaborated by Toti, or, to give it its rather cumbrous name, dacryocystorhinostomy. This is a genuine attempt to meet the surgical requirements, though probably the future will see further improvements on these lines. There is no need that I should here go into a minute description of the operation. It will suffice to say that it consists of two steps: (1) exposure of the lacrymal sac in its fossa and removal of its inner wall; and (2) the removal of the inner wall (in part) of the lacrymal fossa and the mucous membrane of the nose lying against it. By this means the tears drain directly from the sac into the anterior part of the middle meatus of the nose or the vestibule.

Whilst most ophthalmic surgeons seem to know of the operation, yet so far as I am aware Mr. Charles Higgens is the only one in this country who has reported on this particular operation, and he recorded three cases before the Ophthalmological Section of the British Medical Association at the annual meeting this year.

For the past two and a half years I have been doing Toti's operation on selected cases, and have now actually done 10. Of these 10 cases, 7 have been and are, so far as I can trace them, completely cured of their epiphora. Two patients were only partially relieved—that is to say, they still complained of watering of the eye when I last saw them, though it was possible, but with difficulty, to syringe fluid through into the nose. However, the purulent discharge which they had had previous to the operation has not returned. One case was a failure owing, I think, to faulty technique on my part. The lacrymal fossa was deep and not easy to get at, and I believe the opening into the nose was insufficient. This, of course, is not a large series of cases, and one is not justified in claiming too much for the operation, though the results are sufficiently encouraging to induce me to give the method a much more extended trial.

Let us now consider what the critics of this operation urge against it.

1. Its difficulty. Most of the surgeons who have mentioned this operation, but who, I believe, have not done it, urge against it its great and inherent difficulty. For example, in opening the discussion on the subject of treatment of chronic dacryocystitis at the British Medical Association meeting already referred to, Mr. Harrison Butler made this remark: "I think that Toti's method would be always exceedingly difficult and tedious, and in most cases quite impossible," &c. Others have spoken in still stronger terms about it. Without doubt the operation requires that the surgeon should have an intimate knowledge of the anatomy of the lacrymal sac, together with its fossa and its relation to surrounding parts, and surely every ophthalmic surgeon should be expected to know the anatomy of the orbit, its surroundings, and contents to the minutest details, seeing that he is dealing with so restricted an area. Excision of the lacrymal sac itself needs a clear knowledge of the parts involved and is not a simple operation. Toti's operation is in reality very little more difficult. As my experience has increased so the time for completing the operation has lessened, and I find that half an hour amply suffices in uncomplicated cases.

2. A second objection urged against the operation is the danger of infection of the conjunctiva from the nose. My own series of cases does not bear this objection out, for not a single case has ever had the slightest trouble from that cause. Why should it be more likely to occur after this operation than in a stricture which has been dilated? In the latter case the mucous membrane has probably shed most of its epithelium and is itself in a more or less septic state; an easy channel whereby organisms may travel up from the nose to the conjunctival surfaces. It seems to me, therefore, that this objection would apply with greater force to methods in which probing is the main procedure.

3. Again, it has been urged that there would probably be a good deal of discomfort during the process of blowing the nose from the fact that there is such a free communication between the lacrymal sac and nasal cavity. This is an objection which I fully expected to find, but though I have questioned patients about it they have none of them experienced the slightest inconvenience. In connexion with this I might mention the following case in my series.

A patient, a woman aged 40, had had lacrymal obstruction on both sides for over a year. She had been treated on one side by another surgeon by probing with so little success that after many weeks of discomfort she ceased the treatment. Becoming neglectful, she developed an abscess of that sac, which burst and left a fistula on the face. She then came under my care. I excised the sac on the side where the fistula was situated, and later did a Toti's operation on the other side. To-day, some two years after the operation, the side on which the anastomosis was done is the more comfortable of the two. This, I think, will speak for itself.

These, then, are the answers I would make to the various objections to Toti's operation. Hitherto the subject of the treatment of lacrymal stricture

has not received as careful a consideration as it demands. Often the subject is almost neglected. Lately, indeed, some awakening of interest has shown itself since the introduction of the operation of extirpation of the sac. But this is not to be the end of all progress, and I would appeal to those ophthalmic surgeons in this country who are interested in the subject of lacrymal stricture to give Toti's operation or its congeners a trial with the hope of elaborating still better methods. Let us face the facts. Why should ophthalmic surgeons hesitate to perform an operation which involves the nasal passages? The regions in contiguity to the orbit belong as much to the ophthalmic surgeon as does the cranial cavity to the aural surgeon and, as I have already said, every ophthalmic surgeon should be thoroughly *au fait* with the anatomy of the whole of the orbital and peri-orbital areas and be prepared to deal with the various conditions, orbital or lacrymal, which involve these. I am sure, and in this most surgeons will agree with me, too many sacs are excised. And yet, apart from treatment by probes, a method which is slowly but surely coming into disrepute as a routine measure, and justly so I think, there is no other line of treatment to adopt. It is for this reason I have ventured to place on record the few cases of Toti's operation I have done, with the hope that others will be encouraged to adopt similar methods, and so assist in bringing about a line of treatment more calculated permanently to benefit our patients.

Cardiff.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF DERMATOLOGY.

Exhibition of Cases.

A MEETING of this section was held on Dec. 18th, 1913, Dr. J. J. PRINGLE, the President, being in the chair.

The PRESIDENT exhibited a man, aged 30, with typical Fordyce's Disease of the Lips of about 15 years' duration. The subjective symptoms were greatly disproportionate to the visible changes as is frequently observed. The case was brought forward chiefly to obtain the opinion and experience of members as to treatment. His personal results from the use of X rays had been disappointing. He had heard of the successful use of radium in one such case, probably employed "naked" in small and frequently repeated doses, and he proposed to apply this method of treatment in the case shown.—Dr. W. K. SIBLEY recommended salicylate of soda cataphoresis; Dr. G. PERNET, electrolysis; Mr. T. P. BEDDOES, arsenical paste; and Dr. A. WHITFIELD advocated the surgical removal of skin and subsequent grafting if no good results were obtained from full pastille doses of X rays.

Dr. DUDLEY CORBETT brought forward a man who had contracted syphilis and who now presented marked Macrocheilia; the Wassermann reaction was positive; the patient was a heavy smoker and had a very septic mouth.—Dr. J. H. SEQUEIRA had seen a similar case greatly improved by salvarsan.—Dr. E. G. GRAHAM LITTLE suggested extracting the teeth.—Dr. WHITFIELD recommended the use of salvarsan combined with mercury and the removal of the teeth.—Dr. A. M. H. GRAY and the PRESIDENT added their testimony to the efficacy of salvarsan in such cases.

Mr. BEDDOES exhibited a recent malignant growth on the finger of a medical man who had suffered from X ray dermatitis for at least nine years.—Dr. SEQUEIRA recalled a similar case observed by Darier which developed eleven years and seven months after exposures to X rays.—Dr. WHITFIELD had observed the appearance of an X ray ulcer 12 years after X rays were employed to locate a needle in the foot.—Dr. H. G. ADAMSON pointed out that this case illustrated the fact that epithelioma might be consecutive to large as well as to repeated small doses of X rays. The three previous speakers all strongly advised free excision of the growth.—Dr. GRAHAM LITTLE referred to a case observed by Darier, arising in circumstances identical with that reported by Dr. Whitfield, and Dr. G. N. MEACHEN mentioned two cases of severe dermatitis occurring five and seven years respectively after the X raying of scrofulous glands and ringworm.—Dr. W. KENNETH WILLS (Bristol) said that he had found carbon-dioxide snow useful in the removal of warty growths resulting from X rays.

Dr. S. E. DORE showed a severe Frambœsioid Syphilide of the hairy parts of the face in a man. The Wassermann reaction was negative but the patient had been taking Donovan's solution.—The PRESIDENT suggested that the appearance might in part be due to the iodine which he had taken, and agreed with the exhibitor as to the marked benefit afforded by salvarsan in such cases.

Dr. DORE also showed a boy, aged 4½ years, with Congenital Hyperkeratosis of the Palms and Soles which was noticed at birth. Similar keratoses were present over the elbows and knuckles and dorsal aspects of the ankles. He discussed the relationship to ichthyosis, and thought that in view of the difficulty of classifying these cases it was better to retain the name of congenital hyperkeratosis.—Dr. J. M. H. MACLEOD thought the condition had best be classified as a form of nævus, and said that in true ichthyosis the palms and soles were rarely affected.—Dr. F. PARKES WEBER considered that keratoses of the extremities constituted a class by themselves.—Dr. WHITFIELD and the PRESIDENT, while agreeing that such cases as that exhibited were not examples of true ichthyosis, differed from Dr. MacLeod, and were of opinion that in true ichthyosis the palms and soles were almost invariably involved to some extent, although not in the manner exhibited in the patient.

Dr. DORE also showed a case of Congenital Alopecia in a boy, aged 2, which had been complete at birth, but tufts of hair had since grown on the vertex and in the occipital region and elsewhere. The Wassermann reaction was negative.—Dr. SEQUEIRA's experience was that the Wassermann reaction was negative in all such cases.

Dr. DORE also showed a well-marked example of Bromide Eruption of Granulomatous Type in an infant of 8 months, the origin of which could not be determined, although a teething-powder administered was open to suspicion.

Dr. W. T. FREEMAN exhibited a typical Dermatitis Artefacta, confined to the left arm, in a girl aged 22, which had been provoked since a burn three years ago; many of the resulting scars had recently become cheloidal.

Dr. PERNET also brought forward a case of Dermatitis Artefacta of about six months' duration on the right arm of a woman. The lesions were obviously produced by a powerful escharotic the nature of which he had been unable to determine.—Dr. SIBLEY, Dr. SEQUEIRA, and Dr. J. H. STOWERS discussed the cases.

Dr. MACLEOD exhibited a boy who presented the lesions of Lichen Spinulosus as well as those of Lichen Planus. The lichen spinulosus had been present for about four years, but the lichen planus had developed on the flexor aspects of the arms and legs only within the last few weeks. He considered that two different conditions were present in the same patient, and that the case was not an example of the lichen planopilaris which had been described by the President.—The PRESIDENT concurred in Dr. MacLeod's view, and added that the disease with which his name had been associated occurred in adults, and that the spiny and plane lesions which developed successively were probably clinical expressions of one pathological condition.—Dr. ADAMSON said that lichen spinulosus in the adult was in his experience always the precursor of lichen planus.—Dr. WHITFIELD was of opinion that spinulosus papules might occur any time before the onset of a lichen planus, and did not follow the same course.

Dr. SIBLEY showed a case of Extensive Erythematous Lupus of the Scalp and Face treated with carbon dioxide snow dissolved in acetone.—The treatment was discussed and criticised by the PRESIDENT, Dr. SEQUEIRA, Dr. ADAMSON, Dr. DORE, Dr. A. DOUGLAS HEATH, Dr.

MACLEOD, and Dr. GRAY, all of whom agreed that the essential condition for success was the production of a superficial atrophy after an appropriate amount of cutaneous reaction.—In reply, Dr. SIBLEY stated that the pain produced was not unduly severe, and that the method was applicable both to the "fixed" and more diffuse vascular types of the disease.

Dr. SIBLEY also showed a case of Stomatitis Neurotica Chronica of 10 months' duration in a nervous woman, aged 38; the lesions were situated on the buccal mucosa and on the dorsum of the tongue, and were always aggravated by worry. The condition had been differentiated by several continental observers, and he had published three cases in 1899, one of them being of 25 years' duration.—Dr. ADAMSON regarded the case as annular lichen planus.—Dr. PARKES WEBER had seen one similar case successfully treated with a weak solution of chromic acid.—Dr. J. GALLOWAY had observed several identical cases which he regarded as the result of oral sepsis.—The PRESIDENT was quite familiar with the condition, which he had long considered to be one of recurrent herpes. They were certainly frequently associated with neurotic dyspepsia.—In reply, Dr. SIBLEY said that none of his cases had ever developed lichen planus, and in one patient all the teeth had been removed without improvement.

Dr. GRAY exhibited an example of Parapsoriasis-en-plaques, of three years' duration, in a middle-aged man, the patches being situated on the thighs, legs, arms, and back. Great improvement, especially as regards diminution of the itching, had resulted from the use of the Kromayer lamp.

Dr. SEQUEIRA exhibited a case of extremely severe Lichen Scrofulosus in a boy, the whole surface of whose trunk was covered with a papular eruption closely resembling lichen planus, for which the disease was at first mistaken. Microscopical examination, however, revealed distinct tubercular architecture.—Dr. R. A. BOLAM had seen an identical eruption, but localised on the face.—Dr. ADAMSON and Dr. MACLEOD concurred in the diagnosis of a tuberculide, but Dr. WHITFIELD regarded it as a lichen planus.—The PRESIDENT would have diagnosed the case as lichen planus, but was bound to accept the microscopical findings as conclusive.

Dr. SEQUEIRA also showed a case of Multiple Neuromata in a woman, aged 56, the whole of whose body presented innumerable pigmentary patches and small tumours, which had been present since childhood. The diagnosis was in doubt until microscopical examination revealed the true neuromatous nature of these growths which brought the case into very close affinity with Recklinghausen's disease.

Dr. GRAHAM LITTLE showed a lad with a tumour of recent growth, about the size of a tangerine orange, on one knee, which he thought was probably a fibro-sarcoma, but some of the members present regarded it as a lymphatic nævus.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Discussion on the Sale of Milk.

A MEETING of this society was held on Dec. 12th, 1913, Dr. A. K. CHALMERS, the President, being in the chair.

A discussion on the Sale of Milk was opened by Dr. H. JOSEPH CATES, medical officer of health of St. Helens. He referred to the unsatisfactory state of the law with respect to the sale of milk and to the difficulties connected with the prosecution of those who supplied milk which was of an unsatisfactory character. The Sale of Milk Regulations issued by the Board of Agriculture in 1901 provided that a sample of milk which contained less than 3 per cent. of fat should be presumed until the contrary was proved not to be genuine. Where the contents of a sample were found to be below this percentage, and where proceedings were taken against the vendor, various defences were set up. In a case at Lancaster where a milk-seller was prosecuted for selling milk which was admittedly 23 per cent. deficient in fat according to the Board's standard, a successful defence was raised by the cowkeeper from whom the milk was purchased testifying that the milk when sold was in the same condition as when it came from the cows, and witnesses were called to show that normal healthy cows could give milk containing as little as 1·7 per cent. of fat. Factors which were said to cause a variation in the amount of fat in milk included seasonal variation, the period of lactation, the interval between the times of milking, the method of milking, the quality and amount of food, and the particular breed of cattle. The effect of establishing a sort of minimum standard had been to bring about what was known as the "toning" of milk, which consisted of the addition to a naturally rich milk of water or more commonly of skimmed milk in sufficient quantities to bring the resultant mixture into line with that standard. With almost mathematical exactness samples of milk would show on analysis 3 per cent. of fat, almost proving that careful manipulation was taking place. In a certain town when it was decided to take proceedings only when the percentage of fat fell to below 2·7 a progressive deterioration immediately followed in the quality of the samples taken. Although he admitted that there was much to be said against the fixing of a minimum standard as regarded milk, Dr. Cates was of opinion that it would be of some value, and he considered that cows that habitually gave milk of a quality considerably below the limit which was fixed should not be used as milkers.

Mr. WILFRED BUCKLEY, who had established a dairy farm in Surrey on lines similar to those which supplied certified milk in America, insisted that milk should only be sold as "certified" if its production had been approved by a body that had no direct interest in the milk trade and he urged that this could only be done by the establishment of a Government certification.

Sir SHIRLEY F. MURPHY spoke of the extreme difficulty of determining what was good milk and thought that it might be better not to fix any standard. He agreed that the milk of a cow producing poor milk should not be sold.

Dr. B. BURNETT HAM said that in Australia there was a Departmental Committee representing various interests capable of dealing with all aspects of the milk trade. In Victoria there was a standard of 3·5 per cent. of milk fat, probably the highest in the world. After some years' experience it had been found to inflict no hardship on producers, and it had been found possible to maintain the standard.

Dr. A. W. J. MCFADDEN was afraid that with the high standard in Australia there must be a great deal of toning down of milk. He referred to the provisions in the latest Milk Bill dealing with the purity of milk, and especially as regards the addition of colouring matter and of skimmed milk and of water.

Dr. A. B. MACMASTER advocated the grading of milk as practised in America.

Mr. HERBERT JONES hoped that grading would not be introduced into this country as it would put a premium upon the production of milk under most unsatisfactory conditions, for farmers would continue to supply dirty milk on the plea that it could be sterilised and thus rendered harmless.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Specimens.—Relation of Blackwater Fever to Malaria.

A MEETING of this society was held on Dec. 11th, 1913, Dr. J. LLOYD ROBERTS being in the chair.

The following specimens were shown and described:—

Dr. H. LEITH MURRAY: Three cases (two of which were under the care of the late Dr. A. Wallace) of Adenomyoma of the Posterior Vaginal Wall immediately below, but distinct from, the cervix. In two of these the growth, histologically simple and identical with a uterine adenomyoma, burrowed through the recto-vaginal septum and infiltrated the wall of the rectum. Dr. Murray discussed the etiology.

Dr. N. RAW: Carcinoma of Stomach involving Œsophagus.

Mr. T. C. LITLER JONES: (1) Hydronephrotic Kidney with Papilloma of the Ureter; and (2) Sequestrum of Lower Jaw.

Mr. LITLER JONES and Dr. R. J. M. BUCHANAN: Human Hairball.

Mr. G. P. NEWBOLT and Dr. W. MURRAY CAIRNS: Human Hairball weighing 4¼ lb., which had been successfully removed by Mr. Newbolt from the stomach of a girl aged 16.

Mr. NEWBOLT: 1. Human Hairball weighing 9 oz., which he had successfully removed in the year 1908. In this case a bismuth X ray photograph clearly showed the

outline of the hairball. 2. Round-celled Sarcoma of the Bladder Wall. 3. Carcinoma of the Kidney.

Mr. R. C. DUN: (1) Lymphadenoma; and (2) Vermiform Appendix containing Threadworms.

Professor E. E. GLYNN: (1) Two Human Hairballs; and (2) Hairballs from Animals.

Dr. W. B. WARRINGTON: Tumour in the Right Posterior Fossa of the Cerebellum. It was the size of a small walnut, growing between the fifth and seventh nerves. During life the only focal symptom was right corneal areflexia. The posterior fossa was explored on the right side, but owing to the interior and anterior site of the tumour its presence was not detected at the operation. Histologically the tumour was composed of innocent fibrous tissue.

Professor J. W. W. STEPHENS and Mr. F. A. G. JEANS: Chinese Lady's Foot. Surgically it was in a condition of pes cavus, whilst pathologically the deformity was mainly produced by a change in the os calcis, which was L shaped, the patient walking on the insertion of the tendo Achillis.

Professor STEPHENS: (1) Bilharzia of Bladder and Intestine; (2) Guinea-worm; (3) colour photographs from Lip of Tsetse Fly; (4) Redshank trapped by Cockle; (5) Fossil Tsetse Fly; and (6) Bot Parasite on Tapeworm.

Dr. W. BLAIR BELL: Sarcoma of the Ovary.

The specimens were discussed by Mr. F. T. PAUL, Mr. C. THURSTAN HOLLAND, Mr. NEWBOLT, and Mr. LITLER JONES.

Professor STEPHENS read a paper on the Relation of Blackwater Fever to Malaria.—Dr. W. T. PROUT discussed the paper, and said that he supported Professor Stephens in his view as to the relationship between malaria and blackwater fever. The more he had seen of this disease in the tropics, and his experience was very considerable, the more he was impressed from a clinical point of view with its relationship to malaria. He thought some of the figures cited by Professor Stephens very convincing, and he considered that additional confirmatory evidence might be cited in the results of the prophylactic use of quinine. Where this had been systematically done it had been found that blackwater fever had diminished as well as malaria.—Dr. LLOYD ROBERTS, Mr. J. BRADLEY HUGHES, Dr. C. O. STALLYBRASS, and Dr. R. E. HARCOURT also spoke, and Professor STEPHENS replied.

MIDLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Extra-uterine Gestation occurring Twice in the Same Patient.—Tubal Mole.—Suppurating Hydropyonephrosis complicating Pregnancy.

A MEETING of this society was held at the Royal Infirmary, Derby, on Dec. 2nd, 1913, Professor WALTER C. SWAYNE, the President, being in the chair.

Mr. H. T. HICKS showed two specimens of Chorion-epithelioma occurring after Pregnancy at Full Term. The first specimen was obtained at the necropsy on a patient who had given birth to a full-term living child about three months before death. A small nodular growth was present in the uterine muscle close to the left cornu, and metastases were found in the lungs, kidneys, liver, and other viscera. An important point in connexion with the case was the absence of uterine hæmorrhage. Apart from a slight loss of blood about 16 days after delivery, uterine symptoms were absent. The patient was admitted as an acute liver condition. The hepatic area was explored and small secondary growths in the liver were found at the time of operation. Microscopical sections revealed the nature of the neoplasm. The second specimen consisted of a uterus enlarged to about the size of a two months' gestation and containing a diffuse dark-coloured necrotic growth, which had the typical characteristics of chorion-epithelioma. The organ was removed from a patient who had suffered from attacks of bleeding for a month after delivery at full term. A small embolic growth was present in the anterior wall of the vagina; this was also removed. The patient was operated upon six weeks after delivery, and nine months later was apparently in good health.—Mr. H. BECKWITH WHITEHOUSE described a case of Chorion-epithelioma which he had seen under the care of Dr. Thomas Wilson, and which only revealed its true nature when operation was required owing to severe intraperitoneal hæmorrhage. At the laparotomy the bleeding point was found in the left mesosalpinx, and was due to erosion of one of the veins in a pampiniform plexus by an embolic deposit. He was interested in Mr. Hicks's first case, particularly since he also had met with one example of chorion-epithelioma which had caused no uterine hæmorrhage and which was only discovered at the necropsy.—Mr. CHRISTOPHER MARTIN asked if any hydatidiform degeneration of the placenta was present in either of Mr. Hicks's cases. He would like to know in what proportion of cases hydatidiform mole preceded chorion-epithelioma.—The PRESIDENT thanked Mr. Hicks for bringing these two interesting cases forward. He was particularly interested in the same because he had had two very similar cases. In one, before operation, definite hæmoptysis was present which had been attributed to pulmonary metastasis. After operation the symptom disappeared, and the patient made a good recovery and remained well after several years. Leith Murray had shown that in some cases there is a definite tendency to retrogression of these growths.—Mr. HICKS, in reply, thought that Mr. Martin had raised a most important point as regarded the incidence of chorion-epithelioma to vesicular mole. The views of Teacher and Marchand were that the malignant growth as a rule follows the latter. In his own experience this had not been the case, since in a series of four examples three had succeeded full-term gestation.

Mr. HICKS next exhibited a specimen of a Complete Cast of the Female Bladder which had been passed per urethram. The patient had suffered from retention of urine, the result of pressure from a retroverted and incarcerated gravid uterus. The latter had to be emptied, and about a week later a small portion of the cast appeared at the urethral orifice. The whole cast was delivered by traction from below. The patient ultimately made a complete recovery.—Dr. C. E. PURSLOW related the details of a case where a complete cast of the bladder was passed by a woman who had had for a fortnight retention with incontinence due to a retroverted gravid uterus. The patient died from ascending infection of the kidneys.—The PRESIDENT also recorded details of a fatal case of exfoliation of the vesical mucosa secondary to retroversion of the gravid uterus.

Mr. HICKS also showed (1) a specimen of a large Tubo-ovarian Cyst of the left uterine appendage, a similar and smaller cyst being present in the opposite adnexa, and (2) a small Dermoid of the Left Ovary containing three teeth. The interest in the latter specimen lay in the fact that the patient was X rayed for diagnostic purposes, and the photograph showed three distinct shadows lying near the left sacro-iliac synchondrosis. The abdomen was explored for supposed ureteric calculi, when the small tumour containing the teeth was discovered, the latter accounting for the shadows.

Mr. MARTIN showed a Uterus and Both Appendages removed on account of Bilateral Tubal Gestation and small Multiple Uterine Fibroids.

Dr. PURSLOW exhibited a specimen of Unruptured Interstitial Ectopic Gestation removed from a patient aged 32, who had been married five years and had not previously been pregnant. Menstruation had been regular up to 10 weeks before operation. She then had amenorrhœa for six weeks, and subsequently on three occasions noticed a brown discharge. It was thought that there had been an abortion, and she was sent by her medical attendant to Dr. Purslow with a view to having curetting performed. On examination, the uterus was found to be slightly enlarged and a small swelling was noted attached to its right cornu. Tubal gestation was diagnosed. On opening the abdomen the swelling was found to occupy the right uterine cornu, the corresponding round ligament being attached rather to the inner side of the centre of the swelling. The tube was perfectly normal. The tumour was removed by excising a wedge-shaped portion from the wall of the uterus, the patient making a good recovery. No blood was present in the peritoneal cavity.

Mr. WHITEHOUSE read a short communication upon a case of Extra-uterine Gestation occurring Twice in the Same Patient, together with a Note on the Treatment of Tubal Mole. The author observed that the case raised an important point as to whether an operator is justified in removing the uterine appendage in cases of tubal mole or incomplete tubal abortion. Personally, he did not believe that it was good surgery to sacrifice the ovary and tube in these

instances, since dissection of a number of specimens under normal saline had shown that the mole is only attached by a narrow base, and that no great difficulty need be anticipated in controlling the bleeding point. He suggested that access to the mole be attained by a longitudinal incision through the wall of the tube. After enucleation and control of the bleeding point the wall might be closed by a continuous suture of fine silk. With regard to the objection of total or partial occlusion of the tube, he did not think that the risk of such occlusion was as great in cases of tubal mole as in inflammatory conditions which are from time to time subjected to operation by salpingostomy and partial salpingectomy.—The PRESIDENT observed that with regard to Mr. Whitehouse's suggestion of conservative surgery for tubal mole the same idea had occurred to him, but he had deferred the experiment because he did not feel certain of restoring the tubal lumen.—Mr. MARTIN thought that a considerable number of cases of tubal mole did not require operation and it could safely be delayed. As to operative treatment, he preferred the more radical method of salpingo-oöphorectomy, since he thought it was difficult to know what was the cause of ectopic pregnancy. Personally, he considered that the fault lay in the muscle rather than the mucosa of the tube. This being so, salpingotomy would favour the recurrence of the condition.—Mr. WHITEHOUSE in reply stated that he did not consider the risk of obliterating the lumen of the tube a very real one. The operation was certainly easier in the case of tubal pregnancy than in the presence of inflammatory disease; furthermore, as regarded the repetition of ectopic pregnancy, time alone could answer this question. A study of the anatomy of tubal mole had convinced him of the possibility of conservative measures, and he intended to bring the same into practice when the next opportunity offered.

Mr. HICKS read a short communication upon a case of Suppurating Hydropyonephrosis complicating Pregnancy, with remarks upon the symptoms and treatment of pyelitis of pregnancy.—Mr. WHITEHOUSE, in thanking Mr. Hicks for his paper, said that he was glad to note that the author's views regarding the influence of vaccines in this condition coincided with his own. Personally, he had never seen a case which, in his opinion, would not have recovered just as well without vaccines as with them. The majority of patients got well on the usual *régime* of absolute rest, light diet, and urinary antiseptics. Mr. Whitehouse did not agree with Mr. Hicks's suggestion that pressure of the pregnant uterus upon the ureter was the predisposing cause of right side pyelitis, and asked why the right kidney was the organ usually attacked in children? also, why did dilatation of the ureter occur in children and apart from any pressure?—Mr. MARTIN referred to the rapidity with which symptoms of pyelitis were relieved by evacuation of the uterus. If the symptoms did not disappear under ordinary medicinal measures, he always advised evacuation of the uterus in preference to surgical procedures upon the kidney.—The PRESIDENT was also of opinion that evacuation of the uterus was a therapeutical measure of considerable value in some of these cases, although at times it was difficult to come to a conclusion, especially if the fœtus had reached a viable age. In such a case he had sometimes been tempted to advise nephrotomy rather than emptying the uterus.—Dr. PURSLOW thought that many cases of pyelitis were due to ascending infection from the vulva and were to be attributed to lack of cleanliness on the part of the patient.

EDINBURGH OBSTETRICAL SOCIETY.

The Place of Gynæcology in the Medical Curriculum and in General Practice.

A MEETING of this society was held on Dec. 10th, 1913, Sir J. HALLIDAY CROOM, the President, being in the chair.

Dr. A. H. FREELAND BARBOUR read a paper on the Place of Gynæcology in the Medical Curriculum and in General Practice. The Edinburgh Royal Infirmary had, he said, made a noteworthy change in recent rearrangements of the clinical teaching in recognising clinical gynæcology as a department by itself. The University Court in March, 1906, appointed a lecturer on systematic and clinical gynæcology, distinct from the lectures on midwifery. In May, 1907, an examination on clinical gynæcology was introduced in the final examination, thus coming to stand alongside of clinical medicine and clinical surgery. This did not imply that it was of the same importance as these other two subjects, but it emphasised the fact that no graduate of the University should be allowed to enter the practice of medicine without some evidence of possessing at least an elementary knowledge of this subject. The last step had now been taken by the recognition of gynæcology as a special department in clinical teaching with a board of its own to direct that teaching. He (Dr. Barbour) had made an analysis of 2000 cases in the University gynæcological ward and found that 50 per cent. were referred directly or indirectly to conception or childbirth; 9 per cent. to the want of the menstrual function at puberty; 7 per cent. to the patients entering married life; while 20 per cent. began to suffer late in life towards the menopause. Experience showed that patients of the working and middle classes, who formed the larger proportion of the *clientèle* of the general practitioner, expected to be treated in the first instance by the physician who attended them at their confinements. The examination and diagnosis depended on him, and the routine treatment of chronic cases, what was called minor gynæcology, should be relegated to him. It rested with him to say when the case should pass out of his hands into those of the specialist. In the infirmary, every sixth lecture in the course of clinical lectures was devoted to gynæcology. It might be said that the affections of the reproductive system furnished about that proportion of the work of the general practitioner as far as his female patients were concerned. The intimate relationship of gynæcology with medicine must not be lost sight of. In former days the specialist did not at once enter on his specialty, but took up general medicine as well, and gradually separated himself from that. A wide knowledge of the relation of their own specialty to other departments of medicine and of the features of the individual case for a time under their care gave them a sound judgment which made their opinion weighty. The difficulties which beset the clinical investigation of gynæcological cases had in the past sent the graduate into practice inadequately prepared to deal as efficiently with diseases of the reproductive system as with those of other systems in the female. Unless a graduate had learned as a student in the hospital or dispensary under skilled guidance how to make a bimanual examination, and also what might be learned from it, the little gynæcology he had picked up as a student became less, and finally became a skill or knowledge not possessed. Gynæcology should not be relegated to a post-graduate course; hence there had been given to every student during recent years in Edinburgh an opportunity of learning the elements of gynæcological investigation, and the clinical examination had been introduced into the final examination to ensure that he had availed himself of this advantage. While minor gynæcology would continue to belong to the general practitioner, operative gynæcology had become more and more the work of a specialist. It was on its surgical side that gynæcology had of recent years been specialised. The operating gynæcologist must be prepared to deal with any abdominal condition that might crop up unexpectedly in, or form a necessary part of, an operation on the female pelvic organs. In other aspects of gynæcology there had been a tendency in the opposite direction. In its pathology the idea was current at one time that there was a special pathology of the female pelvic organs which found expression in gynæcological literature such as Bennet's "inflammation of the uterus," and Graily Hewitt's "mechanical system of uterine pathology." Now the general principles of pathology were applied to pelvic disease. It was recognised that, apart from the peculiarities of the anatomical structures involved and the physiological changes implied in menstruation, there was no difference between salpingitis and appendicitis, and that epithelioma of the cervix did not differ from epithelioma of the lip. The same idea had crept into clinical work and came out in the term "diseases peculiar to women." While the gynæcologist retained his position as a consulting specialist, yet a considerable part of gynæcological practice was being relegated to the general practitioner. It was significant that Kelly, of Baltimore, some years after writing his great work on operative gynæcology, brought out one on what he called medical gynæcology, and in his preface he stated that "this period of surgical evolution is now at last clearly at an end." We seem to be at the beginning of a period of medical evolution. The discovery of the internal secretion

of the ovary was making the operator hold his hand in the removal of that organ; the value of organic extracts, thyroid, suprarenal, and pituitary, was becoming recognised, and they were influencing gynæcological treatment; and radium was taking its place in the treatment of cancer.

Dr. D. BERRY HART considered gynæcology evolved from obstetrics, as the obstetrician was consulted first. As to whether the gynæcologist should be a surgeon or a physician, the matter had been stated very judiciously. No doubt for a long time gynæcology became a surgical specialty; now they had methods which to a certain extent might supplant that; but he thought that a great proportion of the treatment in gynæcological cases would be of a surgical nature. The general practitioner knew he must be as well trained as possible, and, if so, a greater proportion of cases would come under his care.

Professor H. HARVEY LITTLEJOHN, Dean of the Medical Faculty, remarked there was no question that gynæcology was a very important branch of medicine for the general practitioner, and that, if possible, every graduate from Edinburgh should have a good working knowledge of it. He gathered that Dr. Barbour considered the teaching at present was insufficient. His feeling with regard to all specialties was that they should get as much time as could possibly be given. They could not turn out men too well trained; unfortunately, there were only five years, and they had to cut the coat according to the cloth. The question was whether more time could be given to specialties, and whether the attendance of students could be systematised at these classes so that they got the maximum of knowledge in the minimum of time. The faculty was considering whether they could not economise in certain directions and give more time to others, so as to improve the training of the student at the end of five years. The students got three weeks' systematic training and 12 hours of clinical work; it was proposed to extend that to 18 hours, and to make it compulsory.

Dr. F. W. N. HAULTAIN felt that there had been far too much tendency to separate gynæcology from obstetrics. He thought to separate the theoretical teaching of these two subjects, given by different men, was undesirable. The continuity of the teaching of obstetrics into that of gynæcology was, to his mind, perhaps best. The obstetric physician teaches obstetrics, but he must be a gynæcologist in order to live. If he had enough obstetric cases to keep him he would not have a life worth living. Gynæcology was a specialty as much as that of the eye or ear, and not only so, it was a specialty that was much more difficult to teach, because of want of sufficient material; and if one could not give the students sufficient material to make them thoroughly expert in gynæcology, he thought they had no right to turn them on to the public hall-marked as gynæcologists. Under present conditions the student was either getting too much or too little; that is to say, he was being hall-marked when he passed at the university final because he had passed an examination in gynæcology.

Dr. J. HAIG FERGUSON thought gynæcology might be looked upon from three points of view: the abdominal aspect on surgical gynæcology which was entirely in the hands of the specialist; vaginal gynæcology, which was partly in the hands of the specialist and of the general practitioner; and medical gynæcology which was in the hands of the specialist and general practitioner. The present position of abdominal surgery was mostly due to the operating gynæcologist. The gynæcologist had come in contact and collision with the general surgeon. There was a tendency to encroachment not only in this country but all over the world, except perhaps in Germany. In America it was said that the general surgeon did everything and the gynæcologist risked losing his title and proposed to deal with the abdomen irrespective of sex. He considered the separation of obstetrics and gynæcology as inevitable. In some ways it was to be very much regretted. There was no doubt that a knowledge of obstetrics had been a great help to the gynæcological surgeon especially in regard to diagnosis, and ignorance of obstetrics was certainly a handicap to the general surgeon from a diagnostic point of view. It would be exceedingly unfortunate for obstetrics if obstetricians did not receive training in surgical gynæcology.

Dr. W. FORDYCE said he had been struck as a teacher and examiner with the difference in the knowledge of the man who had done even a very little gynæcology in the wards and that of the man who had got his learning merely from books. In teaching gynæcology even in the short time available one could do much in the way of helping a man as a general practitioner. A man could learn a great deal in a short course of five or six weeks if it were made compulsory; up to the present time it had been voluntary, and therefore they did not take advantage of their opportunities.

Dr. G. KEPPIE PATERSON considered Dr. Barbour's estimate of the proportion of purely gynæcological cases in general practice as too high. With regard to the preparation of a student for general practice, it should be the aim of the curriculum to give the student a primer knowledge of each special subject and how to recognise especially urgent conditions requiring immediate treatment. In gynæcology he should have a course of systematic lectures, and every student should be trained to examine a patient properly.

Dr. G. F. BARBOUR SIMPSON considered the advances made in recent years had no doubt been due to more careful study by the students and their teachers. Large abdominal tumours no longer came under observation. He could not agree with the opinion that the separation of obstetrics and gynæcology had become inevitable; they could never be divorced.

Dr. JAMES YOUNG said it seemed strange that the large amount of out-patient material in the hospital in Edinburgh was not utilised for teaching purposes. In London even the meagre out-patient material which they had in the various hospitals was made use of in the most practical manner.

Dr. H. OLIPHANT NICHOLSON believed that a man who had followed general practice for many years did very much better work as a specialist than a man who had had no such previous training.

The PRESIDENT did not think that gynæcology would ever be absorbed into general surgery. He should be very sorry to see the day when obstetrics and gynæcology were separated. They were two absolutely consolidated subjects. It was, he thought, impossible for any man to discharge the duties properly and take the responsibility of teaching both obstetrics and gynæcology; it was only possible to teach these two subjects by two men who were united in the matter and who taught in relation to one another. He was told it was quite possible for one man to teach both subjects. Well, what did it come to? It came to giving one's work over to assistants, which was nothing like so satisfactory as having it done by senior men.

Dr. BARBOUR replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Exhibition of Cases.—Endocarditis Lenta.

A MEETING of this section was held on Dec. 5th, 1913, Dr. J. F. O'CARROLL, the President, being in the chair.

Dr. H. C. DRURY showed a man, aged 32, who had Raynaud's Disease. The patient had been in India. Two years ago he was engaged as a night porter. At the beginning of the present winter the disease began in his hands. When first seen four weeks ago his right hand was in a condition of local asphyxia, and the other hand showed commencing gangrene, the whole hand being blue and intensely cold. He never permitted the patient to wash his hands, fearing sepsis. There was no albumin or sugar in the urine, and the Wassermann test had a negative result. The condition came on quite quickly, and its very acute condition was of interest. No pulse could be felt in the left wrist, and in the right it was scarcely perceptible. The patient was treated with alcohol and chloride of calcium, at first with 5-grain doses, and then with 10-grain doses, per diem. There was much pain at the beginning, and opium had to be administered at night. The patient was at work up to six weeks ago. No signs of cardiac disease could be discovered.

Dr. A. R. PARSONS showed a patient with enormous Dilatation of the Veins on the Abdominal Wall. The man had had typhoid fever in 1893. The onset of very acute pain in the right iliac fossa had caused so much suspicion of perforation that laparotomy was performed. No perforation was found, and the patient made a comparatively uneventful recovery. Two years later he showed signs of obstruction in the two iliac veins, or perhaps in the inferior vena cava. No inconvenience was experienced.

Dr. R. ATKINSON STONEY showed a patient, aged 41, in a very similar condition to the patient exhibited by Dr. Parsons. When in South Africa in 1901 he had enteric fever and was in hospital for three months, in bed the whole time, two relapses occurring. There was no bleeding from the bowels at any time. He was in a convalescent camp for one month. During the voyage home he noticed swelling of both legs for the first time, most marked in the right leg, which was said to have been 5½ inches larger than normal. No enlargement of the veins of the legs was noticed at this time, but the veins on the front of the abdomen were noticed to be enlarging. He was in a convalescent home in England for two months, and was then discharged from the army. He had since been in the Canadian police force. The veins in the legs became enlarged while in that force in 1904; the enlarged veins in the thigh gave trouble when riding. Varicose ulcers first formed on the legs in 1910; they had healed and broken down twice since then. At present there was a very large tortuous vein forming upon each side of the abdomen from below the middle of Poupart's ligaments to the corresponding axillæ; the bloodflow was free in both directions; one valve not completely competent was situated just below the level of the nipple. There was another large tortuous vein forming upon either side of the middle line from the same origin to the front of the sternum. The femoral vein could be felt as a hard cord in each leg up to Poupart's ligament; the abdominal veins had become larger during the last nine months. The condition was probably due to occlusion of the iliac veins and the inferior vena cava.—Sir JOHN MOORE related a case of his which resembled the two preceding cases, but the dilatation of the superficial abdominal veins was unilateral.—The PRESIDENT and Dr. T. GILLMAN MOORHEAD and Dr. W. F. LAW discussed the condition. There was a general feeling that thrombosis of the femoral veins is a commoner sequel of typhoid fever than statistics appear to show.

Dr. MOORHEAD read a paper on Endocarditis Lenta, and showed the organs from a patient who had succumbed to the disease. The condition had supervened on a chronic endocarditis. The aortic valves became infected after the mitral valves. The spleen was enlarged, and there was moderate nephritis. Streptococcus viridans had been cultivated during life from the blood, and recovered also post mortem from the valves.—The PRESIDENT thanked Dr. Moorhead for his contribution, as he considered it a distinct acquisition to know that this definite type of endocarditis had a definite coccus as its recognised cause. A point which came into his mind was that when a case came into hospital with an old cardiac lesion there was a proneness to assume that the patient was tired from the effects of his old disease, whereas he might have a new endocarditis.—Sir JOHN W. MOORE, Dr. G. E. NESBITT, Dr. W. M. CROFTON, and Dr. W. D. O'KELLY discussed the condition.

SECTION OF OBSTETRICS.

Exhibition of Specimens.—Eclampsia.

A MEETING of this section was held on Dec. 12th, 1913, Dr. M. J. GIBSON, the President, being in the chair.

Dr. GIBBON FITZGIBBON showed a specimen which consisted of the left tube, the right ovary, and the uterus. The patient was a married woman, aged 40, para-2; five years had elapsed since the last confinement. In November, 1912, she was first seen, complaining of profuse metrorrhagia which had been occurring every fortnight or three weeks for about three months, and lasting 10 to 12 days. She was admitted to hospital and curetted for the purpose of diagnosis as possible carcinoma of the uterus. At this time the uterus was very little enlarged; the cavity was 3¼ inches, with nothing abnormal to be felt in its shape. The appendages were apparently normal. The patient left hospital in 12 days, and when seen two months later the menses had occurred normally twice since the curettage. She remained quite well till July, 1913, when she commenced to have pains in the pelvis and abdomen. She was not seen again until October, 1913, when she was looking very ill, had evidently lost a lot of flesh, and was very anæmic. On examination a tumour was found in the middle line reaching to within one inch of the umbilicus. The uterus could not be definitely separated from this tumour, and there was a large mass behind the uterus filling Douglas's pouch and rather fixed, but separate from the tumour in front. The condition suggested multiple fibroids except that the front tumour was distinctly cystic. At the operation the right ovary was found cystic, about the size of a fœtal head, and adherent to the fundus of the uterus and intestines. This was first removed and then the left tube, which was enlarged to about the size of an elongated cricket ball, was found adherent to Douglas's pouch; when this was removed a hard nodule was found in the bottom of the pouch and connected with the cervix, and as it seemed rather suspicious it was decided to do a hysterectomy. This was done as low down as necessary on the vagina to get below the nodule, and when the posterior wall of the vagina was divided it was found that the nodule was adherent to the rectum, requiring the removal of a piece of bowel about the size of a shilling. The nodule was growing from the cervix extraperitoneally. The ovary showed pathologically a carcinoma of a squamous type and rather suggestive of sarcoma. The tube was solid and proved to be a columnar carcinoma quite unlike the ovary. The nodule on the uterus rather resembled the ovarian cancer. The combination of two distinct types of cancer in the tube and ovary at the same time is curious, and the third centre of disease in the uterus resembling the ovarian cancer, which was completely removed from the region of the uterine disease, raises the question of the origin—whether the uterine or ovarian condition was primary to the other or were they two independent growths. The whole case is of interest from the rapidity of the growth, for there was no suggestion of any growth 12 months previously, the only suggestion being an early carcinoma of the body of the uterus. The patient left hospital in five weeks in better health, but her convalescence was greatly delayed by severe bronchopneumonia and pleurisy, but there is very little hope that the whole disease could have been eradicated.—Dr. E. HASTINGS TWEEDY expressed the opinion that the patient would not have a recurrence for a long period.—Sir WILLIAM SMYLY agreed with Dr. Tweedy's opinion, but suggested that the patient should look out for recurrence in the rectum.

The PRESIDENT showed a specimen of Strangulated Pyosalpinx of large size. The symptoms developed suddenly, evidently as a result of the sudden strangulation. The condition was probably of tuberculous origin.

Mr. SPENCER SHEILL read notes and observations on several cases, including one of Eclampsia.—Dr. TWEEDY had never been able to see the rationale of bleeding as a treatment for eclampsia. It had been suggested that it removed poisons from the blood, but this he considered hypothetical. It was mentioned that the patient's urine contained blood, and also that she was passing urine copiously at first; putting these two facts together, he suggested that the blood resulted from kidney inflammation, the result of concentrated and poisonous urine. He submitted that even theoretically there was no reasonable foundation for bleeding unless an equal amount of fluid was put back. Saline fluid seemed to him to be the most misplaced thing that could be introduced into the system under such circumstances. A salt-free diet was considered good for certain inflamed conditions of the kidney, and yet it was suggested in this case deliberately to introduce salt. It appeared to him more reasonable to dilute the fluid put into the blood in such a case with carbonate of soda.—Sir WILLIAM SMYLY believed in the bleeding treatment for eclampsia. It was known that the blood in eclampsia was of high specific gravity and contained less water than usual; that it clots all over the body, and that the arterial tension is very high and patients often die from apoplexy. Bleeding made the blood thinner and less liable to clot. The arterial tension is reduced and apoplexy prevented. He considered the great difficulty in knowing anything about the treatment of eclampsia was that even with an enormous number of cases no very definite conclusions could be formed. He did not consider that sweating and bleeding were at all the same. He looked upon sweating in these cases as bad because it removed fluid from the body when the blood was already too thick.—Dr. B. SOLOMONS spoke of the difficulties in the treatment of eclampsia in private practice. There was no doubt that a maternity hospital was the best place for these cases.—Dr. FITZGIBBON agreed with bleeding in eclampsia if used in suitable cases. A large number of cases occur in full-blooded women, and such react favourably. The system of introducing saline under

the breast had the effect of lowering the specific gravity of the blood.—Mr. TREVOR SMITH drew attention to the difficulty sometimes of bleeding patients suffering from eclampsia. He recognised that where the right side of the heart was overloaded, bleeding was of the greatest use.—Mr. SHEILL, in reply, mentioned that none of the cases of eclampsia he had seen ever suffered from post-partum hæmorrhage. As to the difficulty in getting the blood to flow, he thought once the vein was found this disappeared. He did not agree that the putting of saline in under the breast had the same effect as bleeding, as saline absorbed into the blood might be as rapidly excreted, whereas in the treatment recommended of bleeding, some of the solid matter of the blood was withdrawn and also some of the poisons. He was convinced that the blood in these cases was toxic, and that the removal of some of it would reduce the pressure and also some of the toxins. Altogether he thought that the weight of evidence went to show that bleeding in eclampsia was a good procedure. He considered that an operation performed for sterility had no influence in the development of eclampsia when a pregnancy supervened.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 12th, 1913, Mr. W. R. Bates, Vice-President, being in the chair.—Mr. J. E. Middlemiss showed a case of Bronchial Asthma, associated with Pregnancy, treated by Hypnotic Suggestion. The patient was a married woman, aged 25, who had suffered from bronchitis since childhood and for the last two years from recurrent attacks of typical bronchial asthma, increasing in frequency and severity, until latterly they occurred once a week or oftener. Her health was much disturbed in consequence. There was almost constant dyspnœa between the attacks. She was unable to walk out alone and unable to assume the recumbent position at night. She had been twice operated on for some nasal or post-nasal obstruction before the asthma began, about five years ago. The patient was first seen in July last during a typical attack of bronchial asthma. She was then six months pregnant and looked very ill and was suffering from chronic laryngitis. The usual medicinal remedies were given and the attack subsided. Suggestive treatment began immediately after. Sittings were given three times a week to begin with, later once a week. She proved readily susceptible to hypnotism at the first sitting. At the second sitting there were complete muscular relaxation and amnesia during sleep. On subsequent occasions first hypnotic suggestions were readily carried out, and the patient conversed without subsequent recollection. Suggestions were given that the attacks would be less violent and less frequent and eventually would cease. Complete cessation of the attacks was insisted upon as treatment advanced. The result was that the patient had been free from asthma up to the present time. Her household duties had been resumed and she was able to lie down flat at night—almost an unprecedented occurrence. The huskiness of the voice did not subside until after some nine weeks of treatment. Labour occurred at term without complication.—Dr. T. Churton showed several cases of Nervous Disease, also cases of Bronchiectasis treated successfully by the Postural Method.—Dr. R. A. Veale showed (1) a case of Spastic Paraplegia in a woman aged 24; (2) a case of Disseminated Sclerosis in a woman aged 29; and (3) some cases of Skin Disease.—Dr. C. W. Vining, in conjunction with Dr. W. H. Maxwell Telling, showed a child, aged 9, with a clinical condition strongly indicating General Paralysis. The symptoms began three months after a blow on the head 20 months ago. The child's general mental condition had changed; he was now destructive, restless, silly, and dirty in his habits. The pupils, the reflexes, and the tongue were typical of the condition, and both the blood serum and cerebro-spinal fluid were markedly positive to the Wassermann test.—Dr. Vining also showed a case of Traumatic Neurosis in a man, aged 35, following a fall on the back 18 months ago. The symptoms were hysterical rather than neurasthenic. The objective signs were (*a*) greatly exaggerated reflexes of the limb; (*b*) a coarse tremor of the intention type; (*c*) partial anæsthesia of the palms of the hands; (*d*) a one-sided stamping gait; and (*e*) a reduction in the field of vision of one eye. The main subjective phenomena were headache, insomnia, and loss of confidence.—Cases were also shown by Dr. C. Oldfield, Mr. H. Collinson, Mr. S. W. Daw, Mr. J. A. Coupland, Mr. Alex. D. Sharp, Mr. A. L. Whitehead, Mr. H. Secker Walker, Mr. R. Lawford Knaggs and Dr. G. W. Watson, and Mr. J. F. Dobson.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of this society was held on Dec. 11th, 1913, Colonel Bruce M. Skinner, A.M.S., the President, being in the chair.—Surgeon-General Sir Launcelot Gubbins, Director-General of the Army Medical Service, read a most interesting paper on the Life and Work of Jean Dominique, first Baron Larrey. He touched briefly on the early life and education of the subject of his paper, and pointed out that Larrey first joined the navy, but after six months, taking a dislike to the service, retired and returned to Paris in 1789, where he took part in the French Revolution. In 1792 Larrey commenced his long and valuable military career, during which he was present at a great number of engagements. It was during operations around Mayence and Frankfort in 1792 that Larrey was struck by the unsatisfactory methods that existed for dealing with casualties. The plight of the wounded made such an impression on his mind that he conceived the idea of giving them immediate succour. This found expression in the invention of the *ambulance volante* which could keep pace with the fastest battery of artillery. The next important step in Larrey's career was his appointment as professor of surgery and anatomy in the Military School of Medicine at the Val-de-Grâce. In 1797, however, he was ordered to join the army of Italy, and there was brought into official contact with Bonaparte for the first time. Larrey was ordered to make arrangements for tending the sick and wounded, and he organised his *ambulance volant* in three divisions. He was warmly congratulated by Bonaparte on the result of his labours. In 1798 Larrey took part in the campaign in Egypt, and performed a most heroic act in saving a general's life. Larrey's fame was now well established, and he was received with great enthusiasm on his return to Paris. Among other campaigns in which he took a part was that in Russia in 1812, including the historic retreat from Moscow. At Waterloo Larrey was severely wounded by the Prussian cavalry while endeavouring to withdraw his ambulances; he was captured and sentenced to be shot, but was rescued by a Prussian surgeon-major who had attended his lectures years before. He died at the age of 76 at Lyons on his return from Algiers, where he had been on tour of inspection of the hospitals. Sir Launcelot Gubbins contrasted Larrey with his contemporary in the British army, Sir J. McGrigor, Bart., and laid stress on the fact that the former was more of a surgeon than an administrator, while the latter was mainly an administrator.—At the conclusion of the paper a discussion took place in which the following officers participated: Surgeon-General Sir J. Porter, R.N. (retired), the President, Lieutenant-Colonel A. B. Cottell, R.A.M.C., and Major H. A. L. Howell, R.A.M.C.—Sir Launcelot Gubbins having replied, a hearty vote of thanks was accorded him for his paper.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Dec. 19th, 1913, Dr. David Ross, the President, being in the chair.—Dr. Harold Mowat read a paper on the Value of Radiography in the Diagnosis of Cases both Surgical and Medical. He described the former method of giving a meal and bismuth before examination by the fluorescent screen, also the method of Dr. A. C. Jordan, the simpler one. Plates of the normal and proptosed stomachs were shown, also one having an irregular outline probably due to old ulceration and adhesions; and of stomachs and intestines at different intervals after the bismuth feed. He also showed several plates demonstrating enlarged bronchial glands, pulmonary tuberculosis, "the hanging heart," and aortic aneurysm. On the fluorescent screen he demonstrated a proptosed stomach in a thin woman and aortic aneurysm in a man aged about 50 years.

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held on Dec. 16th, 1913, Dr. Morgan Dockrell, the President, being in the chair.—Clinical cases were shown by Dr. S. Gooding, Dr. J. L. Bunch, the President, Dr. W. Griffith, and Dr. W. K. Sibley. Among Dr Sibley's cases were two of Exfoliative Dermatitis. The first occurred in a man aged 47. There was an infiltration and desquamation of the skin, and from the generalised glandular enlargement he thought the case might be an early stage of

mycosis fungoides. In the second, which occurred in a man aged 42, a policeman from India, there was no glandular enlargement, and the condition was rapidly yielding to treatment.—Mr. W. Hampson read a paper on the Dosage of X Rays, the discussion on which was adjourned.

Reviews and Notices of Books.

Digestion and Metabolism: the Physiological and Pathological Chemistry of Nutrition.

By ALONZO ENGLEBERT TAYLOR, M.D., Rush Professor of Physiological Chemistry, University of Pennsylvania, Philadelphia. London: J. and A. Churchill. Pp. 560. Price 18s. net.

THE disorders of digestion and metabolism are so numerous and of such importance practically that a knowledge of the chemical processes concerned is a necessity for the practitioner, in regard both to diagnosis and to the right appreciation of the principles of treatment. Professor Taylor states in his preface that the aim of his book is to describe the chemical changes in normal and abnormal digestion, and to explain the known metabolic modifications that food materials undergo within the body. He presents the present state of our knowledge in regard to these problems in an interesting as well as an original manner. He discusses the results of the application of modern physico-chemical methods to the study of the physiological and pathological chemistry of digestion and metabolism, and he considers the processes concerned dynamically rather than statically. Owing to the advances that have been made the chemical reactions referred to are sometimes complex, and the physico-chemical problems discussed are often intricate, but Professor Taylor writes with such an easy and lucid style that he invariably succeeds in rendering even the more difficult problems intelligible and interesting.

The book is divided into eight chapters, of which the first deals with the composition of foodstuffs. The three natural groups of carbohydrates, fats, and proteins are first considered and their chemical relationships are clearly outlined. The food values of certain raw and cooked foods are then given in tabular form. The second chapter is devoted to a closely reasoned and instructive discussion of the theory of ferment action. Fermentations are regarded as accelerations of existing reactions, and are thus classed with the reactions of catalysis. The chemical reactions of fermentations, the reversal of ferment actions, the nature of ferments, and the modes of their action are all considered at length. The chapter concludes with a discussion of the specificity of ferment action, and taken as a whole is an instructive presentation of a complex and difficult subject. The third chapter deals with digestion, and contains a full description of the various digestive processes, occurring in the mouth, stomach, and intestines. The ferments concerned are all dealt with in detail, and the range of their activity and their mutual reactions are considered. The dynamic method used so effectively by Professor Taylor naturally lends itself to a presentation of the powers of adaptation and compensation in the several functions of digestion, which are shown to be very great. The great importance of the motor functions of the stomach is emphasised, and the relatively secondary rôle played by its digestive functions is clearly shown. The relative importance of the three ferments, pepsin, trypsin, and erepsin, in the cleavage of proteins is worked out. An interesting account is given of the absorption of the products of digestion and of the synthetic processes effected therein by the intestinal epithelium. The fourth chapter is devoted almost entirely to the consideration of the metabolism of carbohydrates, both under normal conditions and in disease. The pathological chemistry of both experimental and human diabetes and the problems connected with it are clearly presented and critically discussed. Professor Taylor uses the terms "glycogenesis" and "glycolysis" when referring to glycogen, and writes of glucolysis and glucosuria when discussing the destruction of glucose and its presence in the urine. In the next two chapters the metabolism of the fats and proteins is considered in the same detailed manner as was that of the carbohydrates. The anabolic and katabolic processes in which they are concerned are clearly discussed so far as our present knowledge permits. In connexion with the fats, the abnormal processes leading to acidosis are described. In the seventh chapter the metabolism of creatin and creatinin, and of purine and phosphorus, is examined. The subject of auto-intoxication is dealt with in a brief chapter, which is highly suggestive in its scientific analysis of this complex problem. A general survey of the problems of metabolism as a whole is given in the ninth chapter, together with a study of some of the abnormalities of nutrition. The concluding chapter is devoted to the discussion of the production of body heat and the regulation of body temperature.

We have nothing but praise for this interesting and suggestive book. It is admirably produced, well printed, and though dealing with abstruse problems is readable and clear.

Blood Pressure from the Clinical Standpoint.

By FRANCIS ASHLEY FAUGHT, M.D, formerly Director of the Laboratory of Clinical Medicine of the Medico-Chirurgical Hospital; Instructor in Medicine at the Medico-Chirurgical College, Philadelphia. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 281. Price 13s.

IN this volume the author has presented in easily accessible form the pith of medical literature bearing on the study of blood pressure in its relation to medicine, not only in cardio-vascular and renal conditions, but also in many diseases in which clinical observation has shown the information obtained by the sphygmomanometer to be of value.

After a brief consideration of the physiology of the circulation, a description is given of the chief forms of the sphygmomanometer now in use and the manner in which they are employed. The auscultatory method is rightly explained at some length, for by its adoption not only the systolic but also the diastolic pressure can be accurately determined, and hence the value of the readings is considerably increased. In order to obtain correct results by this method some practice is required, but when the various "phases" are fully understood, more reliable and more extended information can be obtained than by any other procedure.

The conditions resulting in hypotension are first discussed. It is shown, for example, that in aortic regurgitation a persistent and uniform high systolic pressure combined with an exceptionally low diastolic reading is found, thus yielding a large

pulse pressure, and in doubtful cases this is an important diagnostic point. The effects of shock and collapse and of hæmorrhage in lowering the tension receive due attention.

A short chapter is devoted to a consideration of the indications of hypertension when no obvious cause can be discovered. Dr. Faught remarks that hypertension is a subtle condition often lurking where least expected. In accordance with other physicians he is of opinion that a permanent increase in blood pressure in a young adult or in one in early middle life, in the absence of discoverable change in the heart, blood-vessels, or kidneys, is always a sign of a chronic toxæmia; a poisoning probably arising from some error in metabolism or deficiency of elimination, either intestinal or urinary, or both.

The subject of high arterial tension in connexion with arterio-sclerosis and diseases of the kidney is then gone into, and stress is laid on the importance of laying down strict injunctions in regard to diet and the general mode of life which are required. The value of arterial tension in connexion with life assurance has naturally occupied the attention of the medical advisers to the life offices. The introduction of accurate methods of estimating the pressure will doubless lead to further research, but until a large amount of experience has been accumulated, judgment must be suspended. The results published by Dr. J. W. Fisher, of the Northwestern Mutual Life Insurance Company, are quoted, and the tables of mortality records certainly give rise for reflection.

We have perused this volume with much interest; it contains a great deal of interesting information which will be found of value in actual clinical work

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Practical Bacteriology, Blood Work, and Animal Parasitology, including Bacteriological Keys, Zoological Tables, and Explanatory Clinical Notes.

By E. R. STITT, A.B., Ph.G., M.D., Medical Inspector, U.S. Navy; Head of Department of Tropical Medicine, U.S. Naval Medical School, &c. Third edition, revised and enlarged, with 4 plates and 106 other illustrations, containing 513 figures. London: H. K. Lewis. 1913. Pp. 408. Price 6*s.* 6*d.* net.

IN our review of the first edition of this work we noted the very practical character of the book and the probability that it would be found to meet the needs of a very large class of practitioners. From the rapid appearance of this, the third, edition it would appear that our prediction has been verified. An important characteristic of the book is its small size. Notwithstanding the considerable additions which have been made in this edition, it has been possible, by a judicious choice of type, to retain this essential feature, and at the same time to give indications of the relative importance of the subject matter. In the bacteriological portion numerous additions have been made which bring the subject up to date, and there has also been a thorough revision of the older material. As with most other works of this character, however, it is in the section on animal parasitology that the largest additions and changes have been required. The number of illustrations has been increased, and the original plate of the ova of intestinal worms which occupied one of the covers of the book has been replaced by excellent drawings, which find a place in the body of the book.

The general scheme remains unaltered, and it still retains as one of its principal features the arrangement of the material in the form of keys, tables, and summaries; additions have been made to these, especially in the section on urine and on intestinal bacteria. New sections have been added dealing with chemical tests of fæces and with disinfectants or insecticides, or, more strictly, with disinfection and destruction of insects. This section will prove very useful and presents the information in the severely practical form characteristic of the book.

The form of the work resembles that of previous editions and is satisfactory, though it suffers from the need to economise space. The book is not so suited to the need of the student as to that of the already trained practitioner. It would be difficult to find a book of so small a size which would prove more useful than this to those whose work is away from books of reference, whose service involves travel and residence in remote districts or in tropical countries.

Pathologische Anatomie. Ein Lehrbuch für Studierende und Aerzte.

Herausgegeben von L. ASCHOFF, Freiburg i.Br. Dritte Auflage, Erster Band: Allgemeine Aetiologie; allgemeine pathologische Anatomie. Mit 431 grossentheils mehrfarbigen Abbildungen. Zweiter Band: Spezielle pathologische Anatomie. Mit 660 grossentheils mehrfarbigen Abbildungen im Text und 1 lithographischen Tafel. Jena: Gustav Fischer. 1913. Vol. I., pp. 811; Vol. II., pp. 1040. Price M.31.50, Vols. I. and II.

THE first edition of this book appeared as recently as 1909, but even a superficial study of the work makes it clear why a third edition should be required in 1913. The editor has been forced to exclude such special subjects as the pathological anatomy of the eye and ear, and the febrile processes. The two volumes deal with pathological morphology, and the author's aim is above all to make this work serve as a bridge connecting pathological physiology with clinical pathology. It has been translated into Italian, and might meet with great acceptance, we think, in an English garb.

The first volume deals with what we may term general pathology, and includes the following subjects: The Internal Causes of Disease, General Pathology of Cells, by R. Rössle (Jena); the External Causes of Disease, by M. Askanazy (Genf); Morphological Malformations, by E. Schwalbe (Rostock); Disturbances of Metabolism, by E. von Gierke; Disturbances of the Circulation, by A. Dietrich (Köln); the Formation of Protective Bodies and Immunity, by R. Kretz (Wien); Inflammation, by O. Lubarsch (Kiel); Pathological Growth, by M. Borst (München). To each chapter is appended a bibliography, and even with the titles of journals and periodicals reduced till identification is most difficult, the list of these abbreviations runs to well over four pages.

Apart from the excellent printing and the scientific merits of the several contributions, there is one fact that stands out very clearly—viz., the exquisite beauty and artistic qualities not only of the illustrations in black and white, but, above all, of the coloured illustrations, which convince by the accuracy of their reproduction. The effects obtained on the surface paper used for text and colour alike far surpass those in some cases relegated to "plates." The illustrations are a triumph in colour printing.

The title of any chapter, such as that by M. Askanazy on the external causes of disease,

gives but a faint idea of the scope of the subject. This chapter alone extends to over 200 pages, is illustrated by over 100 figures, mostly coloured, and includes such subjects as injuries produced by heat, electricity, the pathological effects of light, X rays, changes of barometric pressure, mechanical injuries, chemico-toxic factors, and parasites as causes of disease, including what is known as to vegetable and animal parasites. The article on the general pathology of cells and tissues is both concise and suggestive, and is illustrated by 20 figures. E. Schwalbe's contribution on malformations is a crisp and valuable exposition of the subject, one of which the author is an acknowledged master. Perhaps for those to whom metabolism appeals more strongly than does pure morphology the essay by E. von Gierke, of about 50 pages, on disturbances of metabolism will be especially attractive. It is admirably set forth and well illustrated. The description of immunity and allied subjects by R. Kretz, considering the importance of the subject, is none too long. The same author deals with pathological growth, including the whole question of tumours, in a comprehensive manner.

The second volume, on special pathology, follows the usual classification of the pathology of special organs. The editor, L. Aschoff, is responsible for the articles on the heart and pericardium, urinary apparatus, female generative organs, and the digestive system; C. Benda (Berlin) for the blood-vessels; Herm. Schridde (Dortmund) for the hæmapoietic organs and thymus; O. Naegeli (Tübingen) for blood; M. B. Schmidt (Würzburg) for the motor apparatus; H. Beitzke (Lausanne) for the respiratory organs; P. Ernst (Heidelberg) for the nervous system; M. Simmonds (Hamburg) for the male generative organs; C. Sternberg (Brünn) for the liver, gall-bladder, and pancreas; E. von Gierke for the glands with an internal secretion, and L. Jores (Marburg) for the skin.

The coloured illustrations in this volume are also very good. In most of the articles—e.g., that on the heart and blood-vessels—a short description of the normal organ precedes the pathological, and when development is specially important, as in the *a.-v.* bundle of the heart, the importance of knowledge of development is both insisted on and illustrated. Some of the coloured illustrations in Benda's article are not only most artistic, but are reproduced with almost startling realism, more especially to one conversant with the newer methods of histological investigation and staining of sections. In connexion with the literature of the blood-forming organs we failed to find mention of the well-known atlas of Carnegie-Dickson on the red-marrow of bone, nor did we find it in the list of atlases under the head of Diseases of the Blood. The part dealing with the nervous system, even with its necessarily large array of Greek derivations, seems to us not on the same level as some of the other parts, at least as far as illustrations are concerned. The editor's exposition of the urinary apparatus is concise and illuminating. Surgeons might with profit consult the article on the male generative organs, and the same, perhaps even in a stronger degree, might be said as to gynæcologists and the dissertation on the pathology of the female generative organs. The article on internal secretions is well worthy of perusal, as are practically all the others, to which we cannot refer *in extenso*.

In our opinion this is one of the outstanding works dealing with pathological anatomy, both for students and practitioners, not only as regards the value and comprehensiveness of its textual matter, but on account of the vivid presentation in pictorial design of the anatomical and histological facts of pathological morphology.

Malaria: Etiology, Pathology, Diagnosis, Prophylaxis, and Treatment.

By GRAHAM E. HENSON, M.D. With an Introduction by Professor CHARLES C. BASS, Tulane University, New Orleans. London: Henry Kimpton. 1913. Pp. 190, with 27 illustrations. Price 10*s.* 6*d.* net.

IN this work, which it appears was written primarily for the use of general practitioners in malarious districts, Dr. Henson has compressed within the space of 190 pages the main points of so great a subject as malaria. In the introduction Professor Bass expresses his opinion of the author as one well fitted to carry out this difficult task, his experience and researches in respect of the disease for many years in one of the most intensely malarious regions of the United States having enabled him to deal with the subject from the most practical point of view. In eleven chapters Dr. Henson discusses malaria, firstly as to general considerations, then as to the etiology of the disease and the malarial parasites, the malaria-carrying mosquitoes, the other factors concerned in the causation of the malady; the pathology, sequelæ, and prognosis; the diagnosis; the latency, recurrences, and chronicity of the infection; the prophylaxis; and the treatment. The author thinks that the general practitioners in infected areas should regard the eradication of malaria as one of their most sacred duties. The early recognition and proper treatment of the disease are very important in connexion with prophylaxis, and for this reason Dr. Henson, in his book, has directed special attention to the diagnosis and treatment of malaria. Naturally, in a work in which the dealing with so great a subject has been compressed into 190 printed pages, some omissions have been unavoidable, but on the whole the information given is sound as well as practical, and it should prove of much service to those in the malarious districts of the southern portion of the United States, for whom the work was primarily written. A few misprints have occurred; one especially glaring will be found on the dedication page.

Tabular Diagnosis: An Aid to the Rapid Diagnosis of Diseases.

By RALPH WINNINGTON LEFTWICH, M.D. Aberd., late Assistant Physician to the East London Children's Hospital. London: Edward Arnold. 1913. Pp. 359. Price 7*s.* 6*d.* net.

APART from a preface and a brief chapter of introduction this book consists entirely of tables, of which there are in all 350, and an index. Each table occupies one page and is arranged in three parallel columns, of which the first is a list of symptoms, signs, and other clinical features, while the second and third give the character of these in the two diseases or conditions which are contrasted. At the bottom of each table the chief symptoms which the two diseases have in common are briefly stated, and explanatory notes are given of any unusual or special symptom or sign. The author has evidently devoted a good deal of energy to finding and including some of the recently described and little known diagnostic signs which

are to be found in current medical literature rather than in text-books, and to these he generally attaches the name of the observer describing them, so that in consequence his tables contain not a few unfamiliar signs. We must confess to a dislike of any increase in the already too frequent eponymous designation of symptoms and signs, which is, however, practically unavoidable in a work of this nature. The author states that he has prepared these tables for the use of the busy practitioner, in order to exhibit at a glance "the divergencies of two otherwise similar diseases." The alphabetical sequence of the diseases given first in each table facilitates reference, and where this disease is dealt with second in other tables cross references to the number of these tables are given. The index also is useful, since it is a full one, containing references to the symptoms as well as to the diseases dealt with.

Dr. Leftwich disarms criticism to a large extent by his preface, in which he refers to the obvious disadvantages of the tabular method. He admits the too dogmatic character of tables, and allows that to be strictly accurate almost every statement should have a modifying prefix, such as "chiefly" or "generally." He states that he has been at some pains to make his book unavailable as a cram-book for students, and certainly it would be quite impossible to gain even a rough conception of any disease from these tables only. Its chief use should be that suggested by the author, of giving hints of what conditions to investigate in the differentiation of diseased conditions having several features in common. The tables have evidently been prepared with considerable labour and care.

A Course of Normal Histology: A Guide for Practical Instruction in Histology and Microscopic Anatomy.

By RUDOLF KRAUSE, A.o. Professor of Anatomy at the University of Berlin. Translation from the German by PHILIPP J. R. SCHMAHL, M.D., New York. Part II. London: Rebman, Limited. Pp. 406. Price 25*s.* net.

THE second part of Professor Krause's book deals with the whole field of normal histology in a complete and practical manner. The method adopted is the presentation of a coloured plate illustrating some tissue or component cell, accompanied by brief but lucid letterpress describing the exact method of preparation of the specimen from which the drawing is made. The materials are taken from animals of many kinds; for example, we have liver cells from the salamander and axolotl, dividing cells from the ascaris of the horse, flagellated epithelium from the lamprey, nerve-endings in a muscle from the viper, and so forth, along with the preparations from the sheep, rabbit, and man. As an example of the practical advice given as to making specimens, we may take the instance of connective tissue, where instructions are given as to injecting the loose subcutaneous connective tissue of the rat with a syringe filled with sublimate solution (3 per cent.), fixing in the same solution and then in formalin, cutting frozen sections, and staining with Biondi fluid. In each case the whole technique necessary is described in detail, references being made from time to time to the directions as to details of staining and fixing contained in the first part of the book.

There are altogether 98 coloured plates, containing 208 figures. These are excellently reproduced, and the whole constitutes a most valuable reference book for both student and teacher of histology. The translation is for the most part well done. Here and there we encounter curious expressions, as, for instance, "sexual cleavage" for genital orifice, or the statement that the gut opens "shortly in front of" this. The familiar abbreviation "*resp.*" of German authors is always a pitfall to translators, as in the sentence, "They are able ..... to elaborate in their interior, respectively store up, pigment and fat." But these blemishes are not very numerous. The book is clearly printed and has a fairly adequate index. We cordially recommend it to all who are interested in the subject with which it deals.

Behandlung der Angeborenen und Erworbenen Gehirnkrankheiten mit Hilfe des Balkenstiches.

By Prof. Dr. G. ANTON, Director of the Clinic for Nervous and Mental Disease in Halle; and Prof. Dr. F. G. v. BRAMANN, Director of the Surgical Clinic of the University of Halle. With 44 illustrations in the text and 10 plates. Berlin: S. Karger. 1913. Pp. 188. Price, paper, 9 marks; bound, 10.60 marks.

THIS interesting brochure is worthy of attention by both neurologist and surgeon. It is based on the experience of five years, and contains the summary of some 54 cases examined and treated during that period. It cannot be said, therefore, that the authors have published either scanty or hurried results, and as the methods which they advocate are, we believe, still unpractised, if not exactly unknown, in this country, their work calls for careful and unbiassed consideration.

The problem of the relief of intracranial tension from whatever cause arising has been met in various ways, and the authors furnish a good historical *résumé* of the various methods at present in vogue. The procedure of which they are the exponents is as follows: The skull is trephined about 1½ to 2 centimetres behind the coronary suture and about the same distance to one or other side of the middle line. The opening may or may not be enlarged further. The dura mater is slit, and with a sound the way is easily found between the dura and the brain to the upper surface of the corpus callosum. A cannula is then pushed through the corpus callosum, and its presence in the anterior horn of the lateral ventricle is indicated by the free escape of cerebro-spinal fluid. By gentle to-and-fro movement of the cannula the opening in the corpus callosum may be somewhat enlarged. By this procedure the important point is gained—that a communication between the ventricular and subdural systems is re-established and much greater space is provided for the absorption of cerebro-spinal fluid.

The method is simple and efficacious. It has been utilised by the authors in 17 cases of primary or complicated hydrocephalus, 5 cases of pituitary tumour, 23 cases of cerebral tumour interfering with the ventricular system, 4 cases of epilepsy, 2 of meningitis, 1 of oxycephaly with optic neuritis. In a large number of instances the results were eminently satisfactory, and it is clear that puncture of the corpus callosum in increased intracranial tension is a method to which attention should be given by both physician and surgeon.

LIBRARY TABLE.

The Medical Directory, 1914. London: J. and A. Churchill. Price 15*s.* 6*d.* net.—The Medical Directory published annually by Messrs. J. and A. Churchill, which is now in its seventieth year of issue, is so thoroughly known to all medical men,

chemists, officials, and even to a great extent to the public at large, as a generally accurate and trustworthy source of information, that it seems almost superfluous to say anything about it. A few errors are unavoidable in a work of this size, and the few which we have seen are unimportant. From the present issue we learn that the total number of members of the British medical profession, including practitioners in the United Kingdom and those resident abroad, as well as members of the Navy, Army, and Indian Medical Services, this year reaches 41,972, an increase of 385 over the preceding year. The printing of the names in large black type is a great improvement, and materially facilitates reference. The miscellaneous information given covers a wide field—all kinds of Government and municipal medical office holders, health resorts and spas, British and foreign; homes, sanatoriums, nursing associations, and private asylums; laws affecting the medical profession, medical periodicals, medical holders of titular distinctions, and so forth. The schools of medicine of the three kingdoms, hospitals, dispensaries and asylums, and the medical societies are also given. The dental section is devoted to a list of graduates and Licentiates in Dental Surgery, and dental hospitals and societies. The well-known accuracy and up-to-dateness of the work are amply sustained. The legitimate grievance of some members of the medical profession that their past appointments are not included in any adequate manner has not, it seems to us, been substantially removed. The past appointments of a man are of paramount importance to those who desire to know whether he is likely or not to have had any particular experience, and space might well be made in every possible direction in order to include such information.

Dictionary of National Biography: Second Supplement Index and Epitome. Edited by Sir SIDNEY LEE. London: Smith, Elder, and Co. 1913. Pp. 129. Cloth 3*s.* 6*d.* net.—This index, which is also an epitome of the bare facts and dates concerning each subject of a biographical notice in the second supplement of this valuable dictionary, completes the second series. It is, in itself, a small biographical dictionary, for each memoir in the original volumes is represented in the index by approximately one-twelfth of the number of words allotted to the biography in the original text. The work of condensation has been chiefly performed by Mr. W. B. Owen, but under the supervision of Sir Sidney Lee.

Diet Charts. For the Use of Physicians. By J. CRAIK TAYLOR, M.B. Glasg. Second edition. London: Suttley and Silverlock, Limited. Two parts, 1*s.* each.—These charts are detachable sheets arranged on the usual lines, showing grouped articles of foods and drinks to be underlined or deleted, according to the nature of the case. The first part, which now appears in its second edition, is arranged for fevers, convalescence and dyspepsia, for the nursing mother and infant feeding, and for constipation. The second part is more specialised, and includes sections for Bright's disease, glycosuria, rheumatism, phthisis, and the feeding of school children. The diets are arranged for patients having capable cooks or nurses at command; they are not limited in range, and give a wide choice of well-known prepared foods placed on the market by manufacturers of repute. Considering the care with which certain brands of meat extract, malted foods, and other preparations are specified, it seems strange that Dr. Craik Taylor does not specify as minutely the vintages of wines whose qualities vary so immensely with date and vintage. The author is a little over-fond of oxygenated water and lithia and potash water; it may be because they appear always to head the list. For the rest, the selections made are so sound that it is a compliment to be captious about small exceptions. It is not quite advisable to gather all forms of "dyspepsia" under one dietetic heading and group the whole together with convalescence. There are many forms of convalescence which would do admirably with feeding that would be poisonous to an individual having an over-high purin output, or to one the subject of acute urate diathesis. This crudity of grouping leads to a crudity in rejection of articles of food. For instance, a really sound light sherry or one of the southern wines like Val de Peñas is cheap in price and most valuable, especially in cases where wine may be desirable for children; it is doubtful, also, whether the sweeping exclusion of smoked fish in convalescence is necessary. Good red herrings are more nourishing than many foods at the same price, and are appetising and digestible. In using the diet charts, it should be clearly understood that the medical man in charge of the case must use them carefully and not merely throw one at his patient's head; for the fact that the arrangement of the chart gives a very wide range and variety in food does credit to the author's ingenuity, but it increases the responsibility of him who uses them.

MISCELLANEOUS VOLUMES.

THE number of small handbooks of personal hygiene and elementary physiology for lay readers, and especially for children, is increasing with rapid strides. A new one particularly adapted for school children in the lower grades is the *First Book of Health* (Yonkers, New York: World Book Company. 1913. Pp. 155. Price 35 cents), by Mr. CARL HARTMAN and Dr. LEWIS BRADLEY BIBB. It is very judicious in its selection of the kind and amount of information to be given to young children, and is written in a style likely to appeal to them, though for English children, we fancy, a glossary of American vernacular expressions might be necessary. The tendency to exaggeration and over-elaboration in controversial subjects is avoided. We are glad to note in an American book the ventilating and other valuable properties of the open fireplace approved.——The same authors have also written *The Human Body and its Enemies* (same publishers. 1913. Pp. 358. Price 65 cents), a text-book of physiology, hygiene, and sanitation for more advanced pupils. The authors note the gradually shifting points of view from which such teaching has been regarded; first, the anatomical, then the physiological, and, finally, the hygienic predominating. Hygienic teaching, again, has concentrated attention first on dress and diet, and later on the prevention of transmissible disease. An effort is made in the present work to coördinate all these points of view in harmonious proportion. The book differs from others of its class essentially in that it devotes considerable attention to infectious diseases, their mode of transmission, and the general means for preventing such transmission. Attention is naturally given to diseases such as pellagra, hookworm, malaria, and yellow fever, which are altogether absent in this country or less prevalent than in the United States.——*The Vital Balance* (London: William Rider and Sons, Limited. 1913. Pp. 136. Price 2*s.* net), by ALBERT GRESSWELL, M.A., M.D. Oxon., M.R.C.S. Eng., and GEORGE GRESSWELL, M.A. Oxon., L.R.C.P. & S. Edin., is described on the title page as "a short survey of some of the more important aspects of health." It is divided into three chapters, dealing respectively with bodily, mental, and spiritual health. In the section on bodily health the information given is for the most part sound, but written in a discursive style. Allowance is made for individuality, even in regard to general rules, as, for instance, such questions as

the time of drinking in relation to meals, the use of alcoholic beverages, and so forth. The remarks on this latter subject are indeed judicious and reasonable. We do not think the reason given for discountenancing talking during meals—that it tends to cause bolting the food—adequate. There is a curious, and for those who have no independent knowledge very serious, printer's error on p. 52, where the weights of certain persons' brains are converted into decimals, by substituting a decimal point for the usual comma to separate off the thousands—thus, 2·102 grammes for 2,102 grammes, and so on through the list. Again, under "exercise," when we read of a three hours' walk daily, we wonder for what class of people the authors are writing—a very small one, we fear. An hour at most is the time available for many people who have to earn their living. The tone of the book is optimistic, and there are sound remarks on many subjects, particularly on the injudicious tendency to government by over many hard-and-fast rules, regardless of the unseen conditions of Nature regulating human progress.

The importance of some proper instruction of the young in sex matters is rapidly becoming recognised, and it is in view of this that the "Questions of Sex" Series, published by Cassell and Company, Limited, has come into being. Four volumes of this series lie before us, two for boys and two for girls. In the first of these, *What a Boy Should Know* (1913. Pp. 118. Price 2*s.* 6*d.* net), by Dr. A. T. SCHOFIELD and Dr. PERCY VAUGHAN JACKSON, information is given concerning sex differences and the generative organs, and the dangers from other boys and grown-up persons, as well as from himself, that menace the unwary youth. In a second of the series, *Before I Wed* (1913. Pp. 130. Price 2*s.* 6*d.* net), Sir THOMAS CLOUSTON discusses the physiology and psychology of the sex principle, the relation thereto of literature and art, the importance of heredity, health, eugenics and home, and so forth.——For girls also it is becoming realised that knowledge, not the innocence of ignorance, is the best armour against the temptations of after-life. In *Life and its Beginnings* (same series. 1913. Pp. 137. Price 2*s.* 6*d.* net), Dr. HELEN WEBB gives to mothers a charming little volume which they may fearlessly put into the hands of their children under 12. There is no reason why, as announced on the cover, it should only be "for girls under 12." A companion book for girls over 12 is *From Girlhood to Womanhood* (same series. 1913. Pp. 142. Price 2*s.* 6*d.* net), by Dr. ELIZABETH SLOAN CHESSER. She does not confine her information and advice to matters physical, but has excellent chapters on the cultivation of enthusiasm, girls' loves and friendships, and the necessity of work to insure happiness in life. These volumes would have been of more widespread use had they been issued in a less expensive form.

A fourth volume, entitled *Youth* (London: Charles H. Kelly. 1913. Pp. 151. Price 1*s.* net, cloth boards 1*s.* 6*d.*), has now been added to the three "National Health Manuals," edited by Dr. T. N. KELYNACK. This series is intended to prove of use in connexion with various social service undertakings. As the editor rightly points out in the preface to the present book, we are still in the experimental stage in regard to most matters relating to so-called social reforms, so that in order that we may not be led into serious error, through deficiencies or extravagancies, it is essential that scientific principles should be fully grasped and followed as the chart and compass of all attempted social progress. In the present volume various contributors deal with different topics. After an introduction by the editor, Sir James Crichton-Browne discusses growth and development in youth, Sir Thomas Clouston the psychology of youth, Mrs. Alice M. Burn, M.B., the hygiene of the adolescent girl, Dr. Athelstane I. Simey that of the adolescent boy, Dr. Robert Hutchison the diet of youth, Dr. John Lambert the occupations and recreations of youth, Dr. J. M. Fortescue-Brickdale the disorders of youth, Dr. Allan Warner education and youth, Sir Alfred Pearce Gould habits and youth, Professor James Alexander Lindsay the ethics of youth, and Dr. Robert Murray Leslie youth and citizenship.

Nerves (London: Williams and Norgate. 1913. Pp. 256. Price 1*s* net), by Dr. DAVID FRASER HARRIS, Professor of Physiology in the Dalhousie University, Halifax, N S., is one of the useful series of volumes published under the general title of the "Home University Library." It is neither a physiological nor a psychological manual, but confines itself to an exposition, in phraseology as little technical as the nature of the subject will permit, of "the capabilities and peculiarities of the nervous system, more particularly of those regions whose activities are not associated with the rousing of consciousness." The general construction of the nervous system is indicated, and the mode of transmission of impulses, reflex action, coördination, the mutual coöperation of nerve impulses, fatigue and repair, sleep, and so forth, are plainly described. A glossary, a bibliography, and an index are appended.——The wisdom of the ancients is a fount from which all who will may lawfully draw their inspiration. When, on turning to the end of Dr. GEORGE LINCOLN WATSON'S *Calm Yourself* (Boston and New York: Houghton Mifflin Company. 1913 Pp. 46. Price 50 cents), one reads that the Emperor Antoninus Pius left the most effective monument to himself "when, after composing himself for his last sleep, he gave to a servant the watchword he had chosen for the night: Equanimity," one is irresistibly reminded of Osler's classical valedictory address at the University of Pennsylvania, which ends: "Gentlemen, Farewell, and take with you into the struggle the watchword of the good old Roman—*Aequanimitas.*" But similar as are the endings and identical as is the subject matter, this address by Dr. Watson at the Harvard Medical School treats the theme in an altogether different manner. It breathes the spirit of the practitioner rather than of the philosopher; it is a clinical lecture rather than an academic exhortation. He points out how much of the unpleasantness of life is due to traditional association—e.g., "tired and cross," as though the two things were necessarily bound up together. "Go home," he says, "after a hard day's work and say, 'Why tired and cross? Why not tired and good-natured?'" There is undoubtedly a great deal in that. Other maxims he gives, which can be varied *ad lib.*, for use under diverse conditions of disturbed mental equilibrium. The book would be a useful little manual of self-help for the timorous, the fretful, and the querulous.

JOURNALS AND MAGAZINES.

The American Journal of Tropical Diseases and Preventive Medicine. Vol. I., No. 4.—This journal, the official organ of the American Society of Tropical Medicine, is edited by Dr. Creighton Wellman, and published monthly at New Orleans, n which city the Tulane University of Louisiana, with a School of Hygiene and Tropical Medicine, is situated. The number before us contains a large amount of useful and interesting information. The first article is supplied by the editor, in conjunction with Dr. Howard D. King, and gives a list of all the varieties of mosquito reported as being found in New Orleans. Dr. Allen J. Smith and Dr. Oswald E. Denning describe a curious instance of a Worm, Agamomermis Restiformis, found in the urethra of a man from North Carolina. An informing article upon the Proper Diet in the Tropics, with some pertinent remarks on the use of alcohol, is contributed by Dr. Allan C. Eustis, of the School of Hygiene and Tropical Medicine, Tulane University. Dr. Eustis lays particular stress upon the dangers of a meat diet in the tropics. On the other hand, he sees no physiological reason why an occasional alcoholic drink will cause harm, but this practice if persisted in will give rise to overtaxing of the body "with a poison which the liver is taxed to oxidise in a climate in which there is no indication for same." The editor, in collaboration with Dr. Eustis and Dr. Leonard C. Scott, supplies a paper on the Rapid Cure of Polyneuritis Gallinarum by Intramuscular Injection of a Substance Isolated from Rice, with a note on the pathology of the disease. Dr. Alfred Moore contributes a report, with illustrations, of a case treated by him in the wards of St. Joseph's Hospital, suffering from Hookworm Disease, in which a remarkable amount of emaciation was observed. A very important bacteriological study of the Water-supply of New Orleans is furnished by Dr. Charles Louis Jacob. The supply is taken from the river Mississippi, and since 1901 it has been purified by the use of rapid mechanical filters, sulphate of alumina being the coagulant employed. Apparently there has been a continued prevalence of enteric fever in this city for a number of years, but contrary to expectation the introduction of the water purification plant in 1901 was not followed by any diminution of the prevalence. Dr. Scott regards the river as a polluted source of supply, and the amount of existing

pollution is likely to go on increasing. Nevertheless, the effluent of the town filters is of "good sanitary quality." New Orleans, like many cities in the Southern States, is burdened with a large negro population, whose filthy habits and liability to the infection of enteric fever are well known. In the *Journal* are given also a number of short annotations by the editor on matters of interest, such as cholera in the Balkans, and sanitation and tropical agriculture. News and comments, along with a review of current literature on tropical diseases and hygiene, complete the contents of a very readable number.

The Eugenics Review (London: Eugenics Education Society. Quarterly. Price 4*s.* 8*d.* per annum, or single copies 1*s.* 2*d.*) contains in its latest number the address on Eugenics of War, delivered by Dr. David Starr Jordan, Chancellor of Stanford University, U.S.A., at Sunderland House last July, in which the view of war as contributing to the virility of the human race is combated. A Criticism of Eugenics, by A. M. Carr-Saunders, which asserts that although many of the opinions usually held by eugenists may be capable of justification, such justification is at present lacking. In Depopulation and Eugenics (to be continued) Lucien March essays to show that first-born children are more susceptible to hereditary taints, and that last-born more frequently find a place among the distinguished members of society, while Sören Hansen endeavours to demonstrate the inferior quality of first-born children, not only at birth but as persistent in later life.

The Child (London: John Bale, Sons, and Danielsson, Limited. Price 21*s.* per annum; single copies 2*s* net), edited by Dr. T. N. KELYNACK, contains in its December issue an interesting account of the School Child in Japan, by Dr. Yasusaburo Takaki; Eurhythmics and Child Welfare, by Percy B. Ingram, which advocates the Dalcroze system of eurhythmics and contains some very Greek-looking pictures; the Legal Custody of Children, by A. E. Stanley Smith; Child Welfare in the United States of America, by Robert J. Parr; Child Welfare and the Responsibilities of Central Authorities, by F. E Fremantle, F.R.C.S., F.R.C.P.; Baby Talk and School Speech, by Professor Walter Rippmann, M.A.; a Biographical Notice (with portrait) of Dr. Abraham Jacobi, of New York, "a pioneer and benefactor of child welfare," by Francis Huber, M.D., B.S.; the Tuberculosis Preventorium for Children, by Alfred Hess, M.D.; and a paper on the Edinburgh Cripple and Invalid Children's Aid Society, by Miss C. Allan Dow.

KING'S COLLEGE, LONDON: LISTER MEMORIAL.—A tablet to the memory of Lord Lister will be unveiled in King's College, London, by Lord Rayleigh, Chancellor of the University of Cambridge, on Wednesday, Jan. 14th, at 4.30 P.M.

NATIONAL ASSOCIATION FOR THE PREVENTION OF INFANT MORTALITY.—A post-graduate course of lectures on the Feeding and Care of Infants, with Special Reference to the Milk Problem, will be given under the auspices of the above association on successive week-days from Jan. 12th to 22nd at various places in London. The lecture hour will be 10 A.M. and 8 P.M., with additional lecturers in the afternoon or visits to nursery training schools, schools for mothers, or similar institutions. On Jan. 12th, at 5 P.M., Professor G. F. Still will give the introductory address of the course at the Royal Society of Medicine, 1, Wimpole-street, his subject being Preventive Methods in Relation to Infant Mortality. Other lecturers include Dr. H. C. Cameron, Dr. E. Cautley, Dr. David Forsyth, Dr. Major Greenwood, jun., Professor A. Harden, Professor H. R. Kenwood, Dr. A. E. Naish, Dr. Eric Pritchard, Dr. John Robertson, Dr. Amand Routh, Dr. Harold Walker, and Dr. Mackenzie Wallis. The complete course is intended for medical men at an inclusive fee of £1 1*s.*, but the course of evening lectures and certain of the other lectures, including the introductory address, are open to non-medical persons on payment of 5*s.* or 10*s.* respectively. As far as accommodation will permit, infant consultations on Thursday afternoon can be attended by non-medical persons. Full particulars can be obtained from the secretary at 4, Tavistock-square, London, W.C., to whom all fees are payable. It is requested that application for tickets should be made immediately.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

DIA-PARAFFIN.

(THE SACCHARIN CORPORATION, LIMITED, 10, ARTHUR-STREET, LONDON, E.C.)

ACCORDING to our analysis this preparation yields 28·20 per cent. of liquid petroleum when extracted with ether, and yet dia-paraffin is a light-coloured crystalline powder. It is a combination of diamalt, a crystalline and exceedingly active extract of malt, with paraffinum liquidum B.P. The preparation shows a powerful digestive action upon starch. With water it forms an emulsion which in appearance resembles milk, and in that form it is convenient to take, the malty flavour rendering it quite palatable. Altogether dia-paraffin affords an excellent way of taking the bland hydrocarbon oil for the purpose of a laxative, while of course it possesses also nutrient and digestive properties.

ACITRIN.

(THE BAYER COMPANY, LIMITED, 19, ST. DUNSTAN'S-HILL, LONDON, E.C.)

Of the derivatives of phenyl-cinchoninic acid which have been employed in the treatment of gout, the ethyl ester, or, as it is conveniently called, acitrin, appears to give the most satisfactory results. Acitrin leads to an increased elimination of uric acid, which, however, does not commence as early as when free phenyl-cinchoninic acid is used. Experiments are cited which show that on an average after the administration of 7½ grains four times a day the daily excretion of uric acid rose from 0·75 gramme to 1·237 grammes. It is a tasteless and odourless pale yellow crystalline powder. Its action is said to be gentle, so that the elimination of uric acid is not too rapid, in which case renal colic may be set up.

(1) "TABLOID" THREE GLANDS; (2) "VAPOROLE" TINCTURE OF IODINE.

(MESSRS. BURROUGHS WELLCOME AND CO., SNOW HILL-BUILDINGS, LONDON, E.C.)

(1) The tabloid three glands present the thyroid, suprarenal, and pituitary elements in the proportions normally contained in the body, and their administration is suggested in cases in which it is assumed that the degeneration of these glands respectively is responsible for the increased liability to tumour after middle age. The existence of an interglandular relationship between these three glands appears to have been established, and the suggestion is that they coöperate in governing cell activity. A case is quoted in which carcinoma of the pharynx was treated with "three glands." After two months' treatment there was a decided increase in the weight of the patient, while an augmented dose resulted in improved deglutition. The glands yielded on analysis a definite amount of iodine. Each tabloid contains 6 grains of thyroid gland, ¾ grain of suprarenal, and 1/16th grain pituitary. (2) A 3 per cent. tincture of iodine contained in a hermetically sealed tube offers an obviously convenient method when employing the tincture as an effective and non-toxic germicide. The "vaporole" is issued in two sizes, one containing 20 minims of tincture and the other half a fluid ounce. The point of the container is wrapped in a swab of absorbent material. In this way when the

point of the vaporole is broken the swab takes up the tincture, which may then be applied for sterilising the skin of operation areas or the wound surfaces, and as a first-aid application for injuries generally. The "vaporole" further secures the application of a fresh tincture—that is to say, one that has not been unduly exposed to the air, which is important, as avoiding the formation of irritating products.

(1) HEXALET; AND (2) NEO-BORNYVAL.
(THE J. D. RIEDEL COMPANY, 13-14, WALBROOK, LONDON, E.C.)

1. Hexalet represents the combination of 1 molecule of sulpho-salicylic acid with 1 molecule of hexamethylenetetramine (urotropine). Both, therefore, the therapeutic property of sulpho-salicylic acid and hexamethylenetetramine are presented, the former exerting a sedative action on the urinary organs and the latter providing a bactericide in the bladder which renders the urine aseptic. The bactericidal action is due to the liberation of formaldehyde. The combination can, we are told, be administered without causing gastric disturbance or irritation of the urinary tract. Sulpho-salicylic acid is credited with the property of precipitating pus in urine, forming an insoluble combination with it, and thus serves as an astringent, which is very often desirable in the general method of urinary antiseptic treatment. 2. Neo-bornyval is offered as an improvement upon ordinary bornyval, that is to say, borneol iso-valerianate, which has been used with some success in nervous disorders. Neo-bornyval contains borneol, valeric acid, and glycocholic acid, a combination which reduces the taste and smell of the first constituent, and renders it also less liable to cause gastric disturbance, of which eructation is one symptom. Otherwise neo-bornyval has the same pharmacological action as ordinary bornyval, being employed as a sedative in excitement and in general neuroses of the circulatory and digestive systems.

FRIEDRICHSHALL NATURAL MINERAL WATER.
(OPPEL AND CO., 10 AND 12, MILTON-STREET, LONDON, E.C.)

We have examined this mild bitter purgative water before, but it is interesting to record a fresh analysis, inasmuch as it shows that the water preserves a constancy of composition, and therefore an unvarying therapeutic efficiency. An important feature is that the water is practically free from lime salts. It is a pure natural solution of chloride of magnesia and sulphate of soda, the total mineral constituents amounting to 2·5 grammes per litre. These are made up as follows: SO_4 0·98, Na 0·38, Mg_1 0·26, Cl 0·88. The salts are not in a concentrated state, which, amongst other advantages, renders it less unpleasant to take.

DICKSON'S INVALID PORT.
(HUNT, ROOPE, TEAGE, AND CO., 3 AND 4, WATER-LANE, GREAT TOWER-STREET, LONDON, E.C.)

This is a genuine port—that is, it is the produce of Portugal. Some time ago we published a special report upon port wine which contained a large number of analyses of wine procured by ourselves from Oporto, and the results of analysis of Dickson's port agree closely with those obtained with the selected wines. It is of a mild tawny character, with the well-known agreeable flavour of port wine. Analysis gave the following results: alcohol, by volume 21·19 per cent.; total extractive matters, 8·85 per cent.; sugar, 6·66 per cent.; mineral matter, 0·15 per cent.; fixed acidity calculated as tartaric acid, 0·27 per cent.; volatile acidity calculated as acetic acid, 0·05 per cent. This analysis shows that the wine is relatively dry in character and that it is in sound condition having regard to the small amount of volatile acid present. It is well adapted for sick-room purposes under, of course, the physician's guidance.

New Inventions.

A RAPID TEST-TUBE STERILISER.

THIS is a rapid, cheap, and convenient method of sterilising small syringes and instruments, especially adapted for all glass vaccine and hypodermic syringes. The important points, as shown in the illustration, are (1) that it can be boiled over a spirit or other flame in 30 seconds; (2) it is light and convenient to carry about, no forceps being required; (3) the syringe is not touched by the fingers till the vaccine is drawn in, and the needle not at all; (4) the holder, C, when withdrawn can be placed anywhere on its small legs while

the syringe cools, and B makes a convenient stand for A, an ordinary test-tube; and (5) any sized syringe may be used by substituting a larger test-tube and rubber cork. The instrument is for use at patients' houses in town and country more than for the consulting room or hospital. I have used one daily for some months and have only broken one test-tube. B and C will last indefinitely. The syringe may be boiled at home, the water being drained off without opening the steriliser, and taken to the patient's house wrapped in a piece of sterilised gauze.

This steriliser has been made for me by the Medical Supply Association, Gray's Inn-road, London, W.C.

Kintbury. EDMUND SPENCER HEMSTED, M.R.C.S. Eng.

TO ADVERTISERS.

The Manager begs to intimate that in order to meet, to some extent, the demand made by Advertisers for "position" pages—in which respect THE LANCET *will still continue to be deficient as compared with most weekly Journals—the position occupied by the two following pages has been created, and will be known as "Preceding Leader."*

Heavy types or heavy blocks will not be eligible for this position, nor can any border rules be used.

The price will be £12 net per page and pro rata, with a minimum space of one-eighth of a column, and proceeding by one-eighths (the usual two columns to a page), and consequently there will not be any serial discount.

It will not be practicable to accept any conditions calling for space on either page in particular, or for any precise position on the page, and successive weekly insertions cannot be guaranteed.

THE LANCET.

LONDON: SATURDAY, JANUARY 3, 1914.

Humanism and Medicine.

THE beginning of a New Year forms for all thinking people a convenient place in the calendar at which to register their experiences of the past and to form plans for the future; but such revisions and provisions, to have full value, should not be too limited, for any tendency to regard the separate years as isolated periods rather than as artificial divisions of continuous time, betrays us into an exultation or depression of spirits neither of which may be warranted by fuller consideration. No one can deny that the calling of medicine in this country is passing through a very anxious phase, and while certain of the changes that have recently been brought about in our professional life are very commendable, there are others which are repugnant to the better feelings of many, and some which may yet be found of most unfortunate tendency. It is absolutely necessary to regard the legislation for national insurance against sickness and its results as a phase in a consecutive story—the story of the development of medical practice; we may deplore the machinery inflicted upon that development—and some here even go so far as to speak of retrogression—but we have to own that the legislation followed upon a wider understanding by the public of the essential part that medicine must play in social reform. No separation between panel practice and other medical practice is possible in the minds of those who take this larger survey. They will see in panel practice an expression of the desire of the people to enjoy the ministrations of medicine in a fuller measure; they will know that the truths of medicine are the same however disseminated; and they will be inspired by a certain hope that experience, and the same anxiety for scientific assistance which led to the new legislation, will also lead to the perfecting of the laws to any extent that may be found necessary. The outlook for 1914 is not one of gloom. The public demand made upon medicine, upon every branch, section, and division of our calling, is that we should assist in the improvement of the social, moral, and physical conditions of the State. In our response we must use such legislation as is fitted, and must work for any innovations or reforms that are found necessary. So will the story from year to year be one of progress.

It is a remarkable testimony to the influential evolution of medicine that well-nigh day by day a medical side to all things makes its appearance, compelling from intelligent people a recognition of the spread of our science. The recognition is as good for medicine as it is for the world at large, for medicine is essentially one of the branches of human learning that require the coöperation of humanity in their development. And this diffused interest in medicine has to our minds a close parallel. The humanists during the great Renaissance of the sixteenth century estimated and distributed the stores of classical literature placed at the disposal of the world by the revival of learning, seeing in them the food and instruction necessary for a vast journey forward in civilisation. The efforts of the humanists were all in favour of social betterment, and although nothing was more foreign to their declared objects, and nothing more hidden from the leaders of that superabundant artistic movement, they were heralding the abolition of the rampant constitutional and religious abuses of the day. Something of the sort has been taking place in the educated world of late, where the essential truths of medical doctrine have been receiving an increasingly wide appreciation; and it is reasonable to suppose that the time may be close at hand when every educated person will have his grounding in natural philosophy, as every educated person, from the days soon after the Renaissance until the latter half of the nineteenth century, was supposed to be well read in the classic literature of Greece and Rome. To-day a familiarity with *litteræ humaniores* is not a proof of learning; it is recognised alike that some who possess this familiarity are in no sense intellectual leaders, and that many whose classical equipment is negligible or absent are the forceful spirits among us—the most alive to what is taking place in the world of affairs, and the most prescient as to probable sociological developments. This is not said with any idea of belittling what the study of the classic authors has done for the world. At no time did it make a great number of classical scholars, but it has to be recollected that no such intention was ever formulated by anybody. The erection of a knowledge of classics into a career, other than for the professors of the various subjects, was not contemplated deliberately; the fact that our judges and our bishops, many of them, and that our legislators in a still larger proportion, were the men who in their youth had excelled in scholarship was an acknowledgment following the implied teaching of the Renaissance that on a foundation supplied by Greece and Rome would civilisation best expand. It was therefore natural that those who aspired to take a prominent part in the expansion should know how those foundations were laid. The classics were cultivated because with the revelation of the wisdom, splendour and humour enshrined therein, there grew up a conviction that herein was given a general instruction in the affairs of life which could be assimilated in conjunction with, or as supplemental to, the

teachings of religion. In our country this conviction was well-nigh unchallenged until the beginning of the Victorian era, but during the past half century the general mental attitude has perforce greatly changed. The various developments of civilisation have made a call upon students for specialised intelligence in directions where classical equipment has but a secondary use. There will always be room for the great scholars, and it is essential that the world should not lose the value of the lessons taught by classical study. But many of our students never became classical scholars, when it was believed that in this direction lay the best practical equipment; now that we believe otherwise it has become unreasonable to press classical learning, in any but a rudimentary form, upon the bulk of them. For many the classical education remains valuable because the framework of their professional studies is of a classical pattern; but to-day the subjects in which the public instinctively seeks instruction are those of natural philosophy. And as in response to increasing sentiment in this direction a scientific education becomes the equipment of more cultivated men, a prospect is opened up for medicine sufficiently splendid to dispel any temporary depression. No greater stimulus can scientific medicine receive than the coöperation of an enlightened public.

The spread of learning among civilised nations is now and certainly taking more and more the form of scientific instruction, and we may expect the same sequence of events as followed the rise of general classical learning. The Renaissance opened the minds of men to take a more comprehensive view of life, and stimulated among them a demand for responsible government, a respect for expert advice, and an unwillingness to swallow as incontrovertible truths things which depended only on deformed traditions. And thus will education in the principles of natural philosophy act. There will be no plethora of men of science, just as under the old *régime* there has been no plethora of classical scholars. But the learning instilled will be of more direct use to a larger number of students, and it will inevitably follow that the principles of medicine, whose transformation in so many directions into an accurate science, or blend of sciences, proceeds apace, will become familiar to the well-instructed classes. From this time forward the world will become a better and a happier place, for true medicine must ever be found on the side of peaceful reform. Already we have seen political annexation made effective by the teachings of medicine; wars are entered upon with a heavier heart now that rulers and counsellors know that the conditions of warfare are such as to defy the principles of common humanity as indicated by our science; pathological studies have altered practical geography by their assistance to the canalisation of Panama; and social reform in all the nations is one long application of the teachings of hygiene, whether directed towards eugenics, the promotion of education, or the abolition of poverty and disease. We are assisting in an age of boundless promise for scientific medicine. The stirring reflection is needed for our support during a period of considerable unrest.

Calcutta's Health Problems.

THE report which the Acting Health Officer of Calcutta has prepared on the health of that city for the year 1912 is a remarkably complete and interesting volume, which contains, in addition to much detail of an enlightening character, diagrams and graphic illustrations which serve at a glance to demonstrate the points which it is desired to urge upon the attention of the reader. These points are of the greatest topical interest, though the facts which illustrate them are more than a twelvemonth old.

The death-rate of Calcutta for 1912—namely, 28·1 per 1000—was slightly higher than that of 1911, but compared with the mean ratio of deaths per 1000 during the previous five years, which was 34·5, it gives most satisfactory evidence of the gradual improvement which has been made in the sanitary condition of the city. But the point brought out to which we would call attention is the mortality amongst females. This reached the high figure of 36 per 1000, against 23·9 per 1000 in the case of males, figures in striking contrast to the almost universal experience in European countries, but remarkably similar to that described quite recently by our correspondent in Constantinople. This being so, it is interesting to consider the causes. "One of the principal causes of this terrible mortality," says the report, "is almost certainly the custom of secluding the women of the house in the Zenana. In order to secure privacy at all costs the ventilation and lighting of the minor portions of the house are too frequently neglected." India and Turkey are here in a like case. The effect of these conditions is reflected in the excessive prevalence of pulmonary tuberculosis amongst females. In Calcutta twice as many more females than males die from that disease every year. In this connexion it is disappointing to learn that the proposal to establish a Calcutta tuberculosis establishment was postponed for a year. Apart from the question of its use as a means of treating suitable cases a tuberculosis dispensary can be made an educational institution of great value. It should teach the value of fresh air, the danger of spitting, and other simple rules, the effect of which, like that of most beneficial teaching, would radiate far beyond those immediately affected. Much can be done here, too, by the sympathetic coöperation of enlightened women. Speaking of the work done by the female sanitary inspector, the report urges the necessity of a large staff of "health visitors"—at least one for each district of the city. "Some day we may see the educated Bengali ladies visiting their poorer sisters in the bustees and giving them simple lessons in

hygiene." No work which women who desire to advance their race can undertake could, we think, exceed this in result, as helping to remove the superstition and ignorance of their poorer sisters.

Such work also would go far to reduce the enormous amount of preventable infant mortality, the details of which form so depressing a feature in the report. During 1912 5044 deaths occurred among infants in Calcutta, giving the high rate of 259 per 1000, yet even so the outlook, says the report, is distinctly encouraging when the records of the last 20 years are considered. This, we think, only serves to show the immensity of the problem and the great scope for improvement. For so much of this mortality is due to preventable causes. Out of the total number of 5044 deaths, 1845 died before they were a week old—that is to say, that 36·5 per cent. of the total infantile mortality occurred during the first week of life. That is sufficiently deplorable, but still more deplorable is the fact that 33 per cent. of the deaths among infants under one month is preventable. "Such a state of things ought not to be tolerated in any civilised community," says the medical officer, and few, we think, will be found to disagree with him. It is a condition of affairs which calls for immediate attention, but what do we find? Most of these deaths are due to improper treatment at childbirth. The Calcutta corporation employs four midwives, and excellent results have attended their efforts to reduce the fearfully high mortality, yet proposals to increase the number of midwives have been negatived. It is astonishing, we should say it is incredible, that such indifference to the loss of human life and to human suffering could exist did we not know of many other municipal instances where finance has been considered before lives. In this connexion much might be done by enlightened Indian ladies visiting and instructing their poorer neighbours, and we applaud the movement that is taking place in this direction. Other reforms also are foreshadowed, and perusal of the latest official account of the public health of one of our most important capitals leaves us with the gratifying certainty that the affairs of the British Empire are being carried on with a great regard for the principles of public health. May this spirit remain and progress, for in this way do we, as an Empire, justify our wide-ranging rule.

Progress of State-aided Treatment for Cases of Tuberculosis.

SOME useful particulars of the provision made by public authorities in England for the treatment of tuberculosis are contained in the Public Health and Local Administration Section of the Annual Report of the Local Government Board for 1912–13, which has now been issued.[1] This department is charged with distribution of grants in aid to local authorities for tuberculosis treatment, some for current expenses of "maintenance," and others for capital expenditure on the provision of institutions. For the latter a fixed sum of £1,116,156 was made available in England under the Finance Act, 1911. Up to August 30th, 1913, the latest period covered by the report, only some £13,400 had actually been paid, but in many cases buildings are in progress towards which grants are being made in instalments. At the date mentioned, also, plans had been submitted to the central office by local authorities for the provision of nearly 3000 additional beds in institutions for the treatment of tuberculosis, while many authorities had plans in preparation for the provision of new institutions or for additional accommodation in existing institutions. In the case of capital grants made for hospitals, dispensaries, or other institutions belonging to bodies other than local authorities, the Local Government Board requires an agreement that the institution should be handed over to the local authority free of debt in the event of the governing body failing to maintain it in a manner approved by the Board.

As regards the cost of maintaining "institutional treatment of tuberculosis"—a term which appears to include dispensary treatment as well as that given in sanatoriums and hospitals—the report estimates that a main dispensary with its branches for every 100,000 of the population should cost about £1000 per annum, or 2·4*d.* per head of the population. Sanatorium or hospital beds, on the scale of 1 for every 5000 of the population and at 30*s.* per week for sanatorium beds and 27*s.* 6*d.* per week for hospital beds, should represent a further annual cost of about 7·1*d.* per head of the population for "residential" treatment. The gross annual cost of a complete local scheme is on this reckoning about 9·5*d.* per head of the population. Towards this, in the case of the insured, the repayment possible from insurance funds is about 8*d.* per insured person. The deficit has to be added to the cost of treating non-insured tuberculous cases, the total forming a charge on each local area, of which Government funds bear a half, if the Local Government Board is satisfied with the local arrangements.

The report states that up to August 30th local schemes for tuberculosis treatment had been submitted which relate to over 75 per cent. of the population of England. What are termed "complete" schemes of institutional treatment had been prepared by 34 out of the 50 English county councils and by 50 out of 72 English county borough councils. Approval had been given to the appointment of 108 "tuberculosis officers," 63 in counties and 45 in county boroughs. In nine of the cases the approved tuberculosis officer is also the local medical officer of health, but the report indicates that this arrangement must necessarily be exceptional. The ordinary function of the medical officer of health in the matter lies in executive and

[1] Forty-second Annual Report of the Local Government Board, 1912-13. Part III. Cd. 6962. London: Wyman and Sons, Fetter-lane; Edinburgh: H.M. Stationery Office; Dublin: E. Ponsonby. Price 2*s.* 5*d.*

organising, and not in clinical work. The tuberculosis officers referred to are those engaged in dispensary, domiciliary, or consultative work, and do not include, as a rule, medical officers of sanatoriums or special institutions for tuberculosis, although some of them may have charge of tuberculosis beds in local hospitals. The report gives the total number of hospitals which the department has approved, temporarily or otherwise, for the treatment of tuberculosis as 211, of which 15 sanatoriums and 87 isolation hospitals are institutions provided by local authorities, and 88 sanatoriums and 21 general hospitals are provided by voluntary bodies. The number of beds thus provided by local authorities up to August 30th was 3397, and by voluntary bodies 4016. In regard to London, the report gives special consideration to the rather bewildering negotiations and arrangements with which the Local Government Board and the numerous administrative bodies concerned have so far been occupied.

Annotations.

"Ne quid nimis."

THE NEW YEAR HONOURS.

THE medical names appearing in the list of recipients of New Year Honours are not very numerous, and attention might be called to one or two omissions; but all the men selected for distinction, to whose services it is our pleasure to call attention, may be congratulated upon having thoroughly earned their titular rewards. Sir Christopher Nixon, a former President of the Royal College of Physicians of Ireland, and one of the most prominent members of the medical profession in that country, is to be sworn of the Irish Privy Council. Sir Thomas Joseph Stafford, the only new medical baronet, is the Medical Commissioner of the Local Government Board in Ireland. Knighthoods have been bestowed upon Surgeon-General A. T. Sloggett, R.A.M.C., Director-General of the Army Medical Service; Dr. T. B. Nariman, of Bombay, physician to the Parsi Lying-in Hospital in that city; and Dr. Harry Brookes Allen, professor of pathology and Dean of the Faculty of Medicine in the University of Melbourne. In the Royal Victorian Order Sir Rickman Godlee, President of the Royal College of Surgeons of England, and Sir William Job Collins, who has been a prominent Member of Parliament, Vice-Chancellor of the University of London, and chairman of the London County Council, receive the Knight Commandership. Major James Currie Robertson, I.M.S., Sanitary Commissioner with the Government of India, has been appointed C.I.E. Surgeon-General Harold George Hathaway, Deputy Director of Medical Services in India, receives a C.B. The Kaisar-i-Hind Gold Medal for Public Service in India has been awarded to Dr. William Stokes, chief of the Medical Mission Hospital at Calicut; Dr. Marcus B. Carleton, in charge of the Leper Hospital at Subathu; and Dr. James Shepherd, also in holy orders, in charge of the Medical Mission at Udaipur. Sir Arnold Theiler, who has been appointed K.C.M.G., is the Director of Veterinary Research in the South African Agricultural Department; and Major J. D. E. Holmes, D.Sc., who is appointed C.I.E., is the bacteriologist in charge of the Imperial Veterinary Laboratory at Muktsar. Among other recipients of honours we may also mention Sir James Thomas, who built and equipped the Cardiff Medical School, and Sir Robert Blair, education officer of the London County Council, who have received knighthoods; and the Rev. Paul Wagner, superintendent of the Leper Asylum at Orisa, who has received the Kaisar-i-Hind Gold Medal. Surgeon-General Arthur William May, C.B., Director-General of the Medical Department of the Navy, has been appointed honorary physician to the King. The editor of *Punch*, scholar and man of letters as well as a great humorist, Mr. Owen Seaman, has been knighted. To all these we beg to offer the congratulations of the medical profession upon their well-deserved distinctions.

OUR POET LAUREATE.

THE medical profession will always have a proprietary pride in Dr. Robert Bridges as a Poet Laureate who has been a practising physician. In primitive communities the tribal bards, who were the forerunners of Poets Laureate, exercised the functions of a medical man in that they treated wounds and illnesses by incantations—i.e., by charms (carmina) recited over the sick man. In the twelfth–thirteenth century Gilles de Corbeille showed that a medical man could also write almost classical Latin verse, and in later years the medical profession can number among authors of verse, if not of poetry, Blackmore and Garth, the latter of whom in "The Dispensary" held up the former to ridicule by quoting pompous balderdash from his "King Arthur." Another medical verse writer was Akenside, who in his youth wrote at least one charming poem, "The Pleasures of Imagination," and yet another was Armstrong, who composed a didactic treatise in verse called "The Art of Preserving Health," and was not very inspiring in the result. But even Lucretius, we imagine, would have failed to make the processes of digestion poetical. Armstrong certainly did not succeed. He seems to have been impressed by the "dura ilia messorum," for in Book II. he says:—

> "Nothing so foreign but th' athletic hind
> Can labour into blood. . . .
> His daily labour thaws
> To friendly chyle the most rebellious mass
> That salt can harden, or the smoke of years;
> Nor does his gorge the luscious bacon rue."

But in the present holder of the ancient and honourable office of Laureate we have one who is not only a skilled physician but a very real poet, and his virtues and versatility have recently been set forth by a brother poet, Dr. T. H. Warren, the professor of poetry in the University of Oxford.[1] Dr. Warren's lecture is in no way a critique of Dr. Bridges's art, but a graceful introduction to and mention of his work. It is pleasing to see the head of a house and a professor who can descend from the Olympian heights, where all heads of houses dwell, to make jokes, and Dr. Warren's wicked perversion of the Vincentian canon *apropos* of Dr. Bridges's shrinking from the "popularis aura" is happily conceived, and we are sure that the professor of poetry, who is himself a finished scholar, must have welcomed with joy the witty allusion to the new Poet Laureate's skill in writing

[1] Robert Bridges, Poet Laureate, Readings from his Poems; a Public Lecture delivered in the Examination Schools on Nov. 8th, 1913, by T. Herbert Warren, M.A., Hon. D.C.L., President of Magdalen College, Professor of Poetry. Oxford: at The Clarendon Press. 1913. Pp. 38. Price 1s. net.

triolets, "Nectera at hoc tria olet," which appeared in the current epilogue to the Westminster Play, as well as the allusion to the new prosody. Besides various extracts from Dr. Bridges's English poems, including, we are glad to see, the "Elegy on a Lady whom Grief for the Death of Her Betrothed Killed," which recalls the best work of Herrick and Spenser, Dr. Warren mentions the clever and almost unknown "Carmen Elegiacum de Nosocomio Scti Bartholomaei," published in 1877. This was an account of the hospital and its staff. Another work to which Dr. Warren refers is the delightful account of the casualty department given by Dr. Bridges from personal experience in the St. Bartholomew's Hospital Reports for 1878. This is written in the gravely ironical style, the secret of which the cultivated physician would appear to possess almost more than the members of any other profession. To pass to another side of Dr. Bridges's art, the professor of poetry recalls his knowledge of and love for music as exemplified in the Yattendon Hymnal, a work which is far less known than it should be, both on account of the beauty of the hymns selected or written by Dr. Bridges himself, and also for the magnificent and dignified tunes. The whole medical profession is proud of Dr. Bridges, and we may add owes a debt of gratitude to Dr. Warren for this charming tribute.

THE MEDICAL STAFF OF THE METROPOLITAN ASYLUMS BOARD.

ON the question of the salary to be attached to the position of medical superintendent of Darenth Industrial Colony, made vacant by the appointment of Dr. Arthur Rotherham as one of the Commissioners under the Mental Deficiency Act, and the method of filling the position, the Asylums Committee of the Metropolitan Asylums Board presented a report dealing with the whole question of the relations of the Board with its medical staff. The committee in this report did not see how the Board, in respect of the position at Darenth, could increase the maximum to be offered to an individual, at present unknown, beyond that which, only six months ago, it decided was the proper amount to pay Dr. Rotherham after a proved successful career, during which he had brought the work to its present admittedly high state of efficiency. Dr. Rotherham's maximum having been £900 with emoluments, the committee proposed a salary for the next holder of the office beginning at £700 per annum, rising by annual increments of £50 to £900, with emoluments of unfurnished house and washing. The committee said it might be admitted at once that the proposed salary would not attract into the service medical superintendents of important county asylums, but from a return of salaries paid at those asylums it was clear that to do this would involve such a very substantial addition to the proposed salary as would not only be in conflict with the decision arrived at in Dr. Rotherham's case, but would in fairness involve an immediate reconsideration of the salaries of all of the medical superintendents in the service. That being so, the field outside the Board's own service from which candidates would be drawn was restricted to a few medical superintendents of smaller asylums and to assistant medical officers, and there was no reason to suppose that, if it were eventually found necessary to advertise, the remuneration would not be sufficient to attract such candidates. As to the steps to be taken to fill the position, the committee wished to consider the claims and qualifications of officers already in the Board's service for the following reasons. It was well known that for some time past there had been the greatest difficulty in securing candidates for vacancies as assistant medical officers in the asylums. This difficulty was certain to be increased if it was once understood by possible candidates that as soon as there was a higher post to fill it was the Board's practice to search outside the service without first even considering the claims of officers who had been in it for some time. If this was to be the practice it was only right that candidates should be warned of it at the outset instead of being left to believe, as they were at present, that when there were higher positions to be disposed of existing officers, if they had served the Board with success over a period of years, would have, at any rate, priority of consideration. This was the general practice of other bodies, and obviously if it was not to be followed by the Board, the Board's officers would only get second consideration both inside their own service and outside, and would have practically no prospects of promotion. In such circumstances the Board could hardly hope to attract the best type of junior officer. In the present case there were practically no institutions comparable with Darenth, and the applicants attracted would be men who would not have had experience of that class of work. The committee mentioned that in the infectious and children's hospitals services no medical superintendent had been taken from outside the service for over 20 years. Only once in the last 20 years had an advertisement been issued in those services for a medical superintendent. If it should appear that no existing officer could be recommended for the vacant position the committee would have no hesitation in advising the issue of advertisements. The Board authorised the Asylums Committee to consider in the first instance the claims and qualifications of officers already in the service for the post of medical superintendent at Darenth.

THE PREVALENCE OF CANCER IN THE UNITED STATES.

THERE are differences of opinion as to whether cancer has increased to any great extent during the past 20 or 30 years in the United States. There are those who hold that such increase is only apparent, attributing the seeming prevalence of malignant disease to the greater skill in diagnosis of the modern practitioner and the far better kept records. Mr. Frederick L. Hoffmann, of the Prudential Insurance Company of America, read before the Clinical Congress of Surgeons of North America at Chicago a paper which may throw light on the matter. Mr. Hoffmann believes that the cancer death-rate in the United States is unquestionably on the increase among both sexes at all ages over 40. He has estimated the number of deaths from cancer in the United States for 1912 at about 71,000, of which 28,041 were deaths from cancer of the stomach and liver, 10,700 were of the female organs of generation, 9371 were of the peritoneum, intestines, and rectum, 6886 were of the breast, 2769 were of the buccal cavity, and 2627 were of the skin, while in addition thereto 10,507 deaths were due to cancer of other organs and parts. He takes the stand that it is absolutely incredible that the large increase in

the cancer death-rate in the United States from 37·2 per 100,000 of population during the five years ending with 1876, to 30·5 during the five years ending with 1911, is only apparent—the result, that is, of improved diagnosis and death certification. He goes further and states that the actual increase in the liability of the American population to malignant disease has been even greater than indicated by the mortality returns, although it has to be taken into consideration that the operative mortality of cancer has been materially reduced, and that therefore a considerable number of lives are saved at the present time which in former years would have increased the mortality from malignant disease. In view of the seriousness of the problem Mr. Hoffmann deplores the waste of time spent in questioning an undoubted increase of malignant disease.

THE THERAPEUTIC VALUE OF VACCINES.

THE address delivered by Dr. H. Batty Shaw before the Norwich Medico-Chirurgical Society deserves the serious consideration of all medical men who are interested in placing the practice of therapeutics on a scientific basis. The opinions given as representing the views of many members of the medical profession on the subject of bacterial vaccines in the treatment of disease indicated the existence of very grave doubts as to the practical value of this procedure and also a certain degree of levity in employing and advising doubtful remedies, which is scarcely creditable. The theoretical basis of this form of vaccination or inoculation differs from that of Jennerian vaccination against small-pox in the important respect that in the latter a modified form of infection is engendered in the patients as a protective against the virulent disease, whereas in bacterial inoculation the bodies of dead organisms are injected, which are incapable of giving rise to infection, but are intended to act as antigens and to induce an increased formation of protective or curative antibodies. As prophylactics bacterial vaccines have proved themselves to be of considerable value, notably in the case of enteric fever and plague, but as remedies for infections already started their position is by no means so secure. It is, of course, exceedingly difficult to establish with accuracy the therapeutic efficacy of any remedy in the case of human disease, since natural infections run very variable courses apart from any treatment, and improvement or deterioration following the administration of any drug is not necessarily caused by it. In the case of diseases artificially produced in animals, where all the conditions are under control, much greater certainty can be obtained, and we find as a rule that careful experiments on animals are made with any chemical remedy before trial on mankind. Dr. Shaw pointed out that in the case of bacterial vaccines no systematic experiments seem to have been made on animals before they were introduced into medical practice, and it is largely owing to this omission that the present degree of doubt prevails. It is not too late for this failure to be remedied, and we hope that steps may be taken in this direction. For admittedly the theoretical justification of using vaccines in the presence of an existing infection is not self-evident; for it is adding a little more of a poison already at work. Explanations have, indeed, been offered, depending on hypotheses as to the seat of antibody formation and so forth, but they are rather ingenious than convincing. The two practical criteria needed are experiments on animals and trustworthy statistics embracing very large numbers of human cases. Of all the vaccines probably tuberculin in its various forms is the most extensively used, and in its case, as we have already pointed out,[1] therapeutic experiments on diseased cattle might profitably be carried out. Under the National Insurance Act funds are set aside for research on tuberculosis, while the Government could easily and without expense make use of cattle condemned to destruction as tuberculous on which to carry out the experiments. Valuable information could thus be obtained as to the probable utility of tuberculin in the treatment of human disease—information which we do not at present possess, and which is very badly needed.

INFANTILE ALCOHOLISM.

DISCREPANCY as to the frequency with which cirrhosis of the liver occurs in young children does not extend to a denial that such cirrhosis is sometimes due to alcohol. The effects of parental alcoholism are betrayed by the feeble resistance such children offer to disease as well as by their poor development. Professor Cesare Ortali classifies this form of alcoholism as hereditary or acquired, but his article in the *Gazzetta degli Ospedali e delle Cliniche* (Nov. 30th, 1913) deals more with the results of this intoxication than with the habitual abuse of alcohol by the young which the title might suggest. His views require a great deal of scientific support. He says that infantile alcoholism of the hereditary form may appear if the parents are chronic drunkards, and it is an accepted belief among some that it may also appear if fecundation have occurred when even one of the progenitors is under the influence of alcohol. The arguments against such an occurrence are enormously strong. As the nervous system is particularly damaged, nervous disorders—epilepsy, hysteria, neurasthenia, chorea—are commonly alleged, in varying frequency, in the children of the alcoholic, and Professor Ortali, who takes this view, records a case of multiple sclerosis for which no cause save parental alcoholism could be adduced. Professor Ortali even claims that these children show a tendency to alcoholism when removed from the influence of their parents, which becomes evident in the females at puberty, at the menopause, and during pregnancy. But these critical stages in feminine physiology often enough lead to alcoholism without our having to invoke a hereditary tendency. The children of alcoholics are said to be of poor stature, and in France it has been found that many of the youths unfit for military service, who are pale, feeble-voiced, and thin, have a bad alcoholic parentage. An acquired form of infantile alcoholism is attributed to alcohol in maternal milk, a popular view that we have not seen endorsed by physiological chemists. The giving of alcohol in the ordinary way, as a beverage, to children is particularly common among the lower classes everywhere, and the children suffer from insomnia and intestinal disturbances. Lancereaux has pointed out that children intoxicated by brandy show decrease in sensibility to pain and in the plantar reflexes, but that absinthism has an opposite effect. It is to be noted

[1] THE LANCET, May 10th, 1913, p. 1327.

that these remarks refer to the effects of alcohol taken whether by parents or by children over long periods. It is not likely that such dire results would follow the use of a measured quantity of brandy or of sherry when under medical supervision.

ALBINISM IN NYASALAND.

IN *Biometrika* for October, 1913 (Vol. IX., Nos. 3–4, p. 333), Dr. H. S. Stannus describes anomalies of pigmentation among the natives of Nyasaland. The observations recorded supplement those of the same author already incorporated in the well-known "Monograph on Albinism," by Pearson, Nettleship, and Usher. In the present memoir—a thesis presented for the degree of Doctor of Medicine at the University of London—he describes several more albinos, piebalds, and spotlings in some detail, illustrating his description by means of drawings and photographs which are clear and excellently reproduced. Cases of leucoderma are also described, and the relation between this condition and albinism is discussed. His general conclusions are that albinism is common among the natives of Nyasaland. It is a family affection and often directly hereditary. Almost every degree of albinism is met with, varying grades being found in the same family. The degree may alter with age, and a secondary laying down of pigment in the albinotic skin in spots is a not uncommon feature. Albinism is very generally associated with an unusual development of the lanugo hairs and less commonly with mal-development of the teeth. Piebalds are comparatively rare, but spotlings less so; in a definite class the latter condition affects only the penis. Widely distributed leucoderma is uncommon, but a localised form, resembling that described by Ziemann, is frequently found, between which and the more generalised form intermediate conditions occur. Some congenital cases of spotlings resemble exactly some cases of leucoderma.

THE ATROPINE TREATMENT OF SEA-SICKNESS.

BASED upon the similarity between the symptoms of sea-sickness and those of physostigmine poisoning, a hypothesis has been framed by Fischer that the former, like the latter, is due to stimulation of the vagus. He deduced from this that atropine, by inhibiting the vagus, might relieve sea-sickness. His results on testing the idea are published in the *Münchener Medicinische Wochenschrift*. Fischer treated 52 cases of severe sea-sickness by injection of somewhat large doses of atropine: 1/64th grain for males and 1/85th grain for females. Salivation, it is not surprising to learn, disappeared speedily, and vomiting usually ceased within half an hour. The face regained a healthy colour and the pulse became full. In most cases a single dose sufficed, but exceptionally a second was required to subdue the symptoms of sea-sickness. Relapses were not observed, a somewhat curious point, inasmuch as atropine is eliminated fairly rapidly. Control experiments were tried by treating all the inmates of one cabin and none of those in the next one; and to exclude suggestion injections of distilled water were given, but did not avail to relieve the patients. The occurrence of sea-sickness on a smooth sea or in harbour is explained as due to vagus excitation by psychical influences. Whatever the theoretical explanation of the benefits of atropine treatment may be the question which matters most to sufferers from sea-sickness is whether or not it is effectual. If independent investigation confirms Fischer's claims he will be hailed as a benefactor by thousands of the travelling public. It is interesting to recall the vogue which hyoscyamine had as a specific for sea-sickness a few years ago; for pure hyoscyamine has physiological actions practically identical with those of atropine. Possibly the difficulty of preparing it cheaply without the presence of hyoscine as an impurity accounts for its decline in favour. If Fischer's explanation of the mode of action of atropine is right it should be just as effective in prophylaxis as in cure; this, apparently, still remains to be put to the test.

THE LONDON SCHOOL MEDICAL SERVICE.

IT was reported to the Education Committee of the London County Council at the last meeting before the Christmas recess that the new regulations of the Board of Education, whereby, under certain conditions, 50 per cent. of the cost of medical inspection and treatment of school children will be borne by the State, would make necessary the appointment of eight additional full-time medical assistants or their equivalent, in order that the full amount of the grant might be earned. In view of the suggestions of the Board some months ago[1] that an injurious effect would be produced on the school medical work unless more variety were introduced into the work of the assistant medical officers, the committee proposed to make a partial return to the part-time system in respect of these appointments. The county would be divided into five districts instead of four, and the staff under the control of the divisional officer would consist of a nucleus of permanent medical assistants, the remainder of the staff consisting partly of full-time temporary medical assistants to be appointed for a period of three years only, and partly, where practicable, of temporary part-time medical inspectors. The three-year appointments would be held on probation for the first year; holders would not be debarred from seeking reappointment. Having regard to the importance of the work to be performed by the heads of divisions these officers should be designated "divisional medical officers." The staff is to consist of 15 permanent officers, 20 whole-time assistants, and 18 part-time school medical inspectors giving three school sessions a week at a remuneration of £1 per session. It was hoped that these arrangements would obviate dangers recently indicated by the Board of Education. The proposals will be considered by the Council in a few weeks' time.

ELECTRARGOL IN THE TREATMENT OF MEASLES.

THE high mortality of measles in the presence of complications is a matter for serious consideration with reference to the feeble and ill-fed children of our overcrowded urban centres. Any therapeutic measure, therefore, of practical application which may lessen the danger of severe and complicated cases of this disease will be welcome as an addition to our resources. During an epidemic last year at Faenza Dr. Paolo Galli treated 35 cases with electrargol; of these, 7 were unusually severe forms, 3 toxic and 4 hyperpyretic, with 1 death; and 28

[1] THE LANCET, August 2nd, 1913, p. 339.

had complications, 5 septic, 5 capillary bronchitis, and 15 bronchopneumonia, with 6 deaths. In all there were 7 deaths in 35 cases, or a mortality of 20 per cent. This compares favourably with the statistics given by Comby—i.e., 69 per cent. in complicated cases. Dr. Galli explains the rationale of this treatment by calling attention to the hypoleucocytosis which occurs in the periods of invasion and eruption. The group of polynuclear neutrophiles is chiefly concerned in this leucopenia, and is reduced to a very small number, almost the whole of the white corpuscles being represented by lymphocytes. It may hence be inferred that the toxin of measles is negatively chemiotactic for the bone marrow, which according to Ehrlich is the focus of production of the polynuclear neutrophiles, and perhaps positively chemiotactic for the spleen and lymphatic glands, which according to Blumreich and Jacoby are the foci of production of lymphocytes. Now, since the polynuclear leucocytes are the defenders of our organism, their marked diminution in the second and third periods of measles is the cause of the diminished resistance, and explains how this special exanthem is more than any other susceptible of aggravation and of complications. In such circumstances electrargol represents the ideal and rational remedy, says an article in the *Gazzetta degli Ospedali e delle Cliniche*, since it stimulates those hæmopoietic organs (bone marrow) which the toxin of measles paralyses, inducing a defensive polynuclear leucocytosis, while it also destroys and renders harmless the toxins which jeopardise life by disturbing the functions of the viscera.

TRANSPLANTATION OF THE TESTICLE.

IT is rather surprising to learn from the paper by Dr. Victor D. Lespinasse in the *Journal of the American Medical Association* for Nov. 22nd that so long ago as 1849 experiments on testicular transplantation were successfully carried out by Berthold, who worked with roosters, transplanting the testicle into the peritoneal cavity. Other investigators have used other animals since, and a short time ago Hammond and Sutton, of Philadelphia, transplanted a whole human testicle into the scrotum of a patient who had but one sound one. In this case the grafted organ "took," but apparently underwent subsequent atrophy; and the functional result cannot, of course, be ascertained, since the recipient of the transplanted testicle already had one sound one. The case reported by Dr. Lespinasse falls within a different category altogether, both in respect of the nature of the operation and the indication for its performance. His patient was a man of 38 who had lost both testicles, one in an accident, the other —which had failed in its normal descent—in a hernia operation. His chief reason for desiring treatment was that he was sexually impotent. Dr. Lespinasse writes that a testicle from a normal man was easily obtained; he was surprised at the number available. The two patients were anæsthetised at the same time; the scrotum of the recipient was opened high up and a "bed" prepared as for the reception of an undescended testis. A second "bed" was made in the depths of the rectus abdominis muscle. The healthy organ was next removed and cut transversely into a series of slices about 1 millimetre thick. The central slice and the one next to it were taken out and set down in the midst of the rectus abdominis, another slice being placed in the scrotal "bed." Recovery was uneventful so far as the healing of the wounds was concerned; sexual desire and capacity for erection returned on the fourth day, and have continued for the past two years. At the discussion which followed Dr. Lespinasse's description of this remarkable case allusion was made to the successes achieved by Tuffier and another in analogous operations on the ovaries, but it seems that there is no other recorded example of such a proceeding in relation to the male.

THE TOXICITY OF BACTERIA.

IT has generally been supposed that pathogenic bacteria produce their evil effects by means of two classes of poisons—one the so-called exotoxins, analogous in some measure to the excretions or secretions of higher organisms, and the other the endotoxins, usually regarded as existing within the bodies of the bacteria and liberated only by their death. The latter on this view are somewhat analogous to the poisonous bodies laid up within the cells of some plants, products of the metabolism of the living cells, but distinct from the actual protoplasm. A novel and interesting hypothesis as to the nature of bacterial toxicity has recently been put forward by Dr. F. H. Thiele and Dr. D. Embleton,[1] based to some extent on Friedberger's work, according to which the toxins of bacteria are in reality cleavage products derived from their living proteid substances under the influence of the ferments present in the body of the host. But it is only at a certain stage in the process of disintegration that the cleavage bodies are toxic. From this it follows that, given the power of existing and multiplying in the body of a living animal, the injurious nature of a bacterium depends on the quantity and consequent vigour of action of the host's ferments. There must be just enough of these to hydrolyse sufficient bacterioprotein to cause toxic effects, but not enough to carry this process so far and so fast as to break up the toxins themselves before they can do harm. A bacterium may therefore be harmless to a particular animal host if, on the one hand, the latter has no ferments capable of digesting it or such a poor supply of these that the process is too slow to produce poisons in sufficient concentration; or, on the other hand, if the ferments are so plentiful and active as to prevent accumulation of toxic cleavage products. Again, a harmless bacterium can be rendered pathogenic if suitable ferments can be produced in the body of the host to effect the needful degree of digestion. In proof of this Dr. Thiele and Dr. Embleton have succeeded in rendering saprophytic organisms, such as bacillus phlei (the grass bacillus), the smegma bacillus, and others lethal for rabbits by sensitising the animals by a preliminary vaccination with the germ. It is interesting to note that the acid-fast organisms just mentioned produce under these conditions typical tubercles and caseation; they acted, in fact, just like tubercle bacilli, thus raising the question of a possible development of the tubercle bacillus from common saprophytic organisms. The most striking feature, however, of the views propounded by Dr. Thiele and Dr. Embleton is the harmony introduced between the phenomena of immunity and those of anaphylaxis, which have hitherto seemed almost contradictory. The anaphylactic state corresponds with the condition of an animal in which

[1] THE LANCET, vol. i., 1913, pp. 234 and 332; Zeitschrift für Immunitätsforschung und Experimentelle Therapie, Nov. 12th, 1913, pp. 643, 666.

the correct amount of ferment is present to render an organism pathogenic, whereas an immune animal has either so much antibody that the cleavage products are destroyed—acquired immunity—or so little that no ill-effects are produced—some forms of natural immunity. For the present the hypothesis sketched above can only be regarded as tentative and awaiting confirmation or refutation, but it is certainly ingenious and worthy of attention.

THE AUTOMATIC REPRODUCTION OF DOCUMENTS.

A GREAT part of the distinct advance that has been made in recent times in all branches of science is undoubtedly due to the preservation of records. Sometimes the data have been consciously selected for their known or expected bearing on some recognised problem. Occasionally they have been noted merely because of a recognition of the fact that the future realisation of a newly recognised factor in some problem may convert mere collections of facts into fertile fields of knowledge. One of the chief obstacles to the systematic collection of facts, whose immediate bearings on some problem are not yet perceived, has hitherto lain in the immense amount of clerical labour involved. The Bureau of Records in the Borough of Manhattan, New York, has recently taken a step in advance in this work by utilising photography wherever possible to perform this hitherto clerical labour.[1] Copies can thus be reproduced of such important records as permits for burial of people who die abroad and other documents containing often much illegible handwriting or curious signatures or impressions of seals. Records in foreign languages, necessitating extreme care in transcription and calling under the old methods for the services of some intelligent person acquainted with the language in question, are reproduced by photography with accuracy and fidelity and with minimum loss of time. The process is, of course, applicable to any documentary evidence, such as certificates of births, marriages, deaths, sickness, and what not. Indeed, it may have entirely unlooked-for extensions as soon as it becomes general. The work is performed in New York by exposing in a holding frame the document to be copied for from 5 to 12 seconds before a suitable camera containing a large roll of specially prepared paper, the required amount being unrolled, exposed, and passed into the developing tank, automatically cut, and thrown into the fixing bath, from which it emerges complete, except for a washing. The result is a positive print, without the intervention of a negative. By this process, it is stated, sheets may be copied at the rate of two a minute, the resulting copy being an exact reproduction free from any possibility of copyist's errors. The utility of such a process calls for no comment.

DISLOCATION OF THE PROXIMAL PHALANX OF THE GREAT TOE.

IN the *Journal of the American Medical Association* of Dec. 6th, 1913, Dr. P. G. Skillern has reported a case of a very rare injury—dislocation of the proximal phalanx of the great toe. A man, aged 56 years, went to hospital with the history of having been kicked by a horse nine weeks previously and of having been treated at another hospital for an injury to the left knee. He complained of pain in the great toe. Examination showed fixation of the toe in extreme extension and crepitation at the metatarso-phalangeal joint. A skiagram revealed displacement of the proximal phalanx of the hallux on to the dorsum of the head of the metatarsal bone. The sesamoid bones were displaced from the plantar aspect to each side of the joint. Under nitrous oxide an attempt at reduction was made with Levy's apparatus, but in consequence of laceration of the skin had to be abandoned. The method proposed by Dr. Crosby, of New Hampshire, in 1826 for reducing dislocations of the thumb, which has been commended by the elder Gross, was then adopted with success. The toe was raised perpendicularly and strong pressure was applied against the base of the phalanx, so as to push it from behind forward and from above downward. Reduction was maintained by strapping the hallux down on a plantar splint. Evidently the injury was overlooked at the other hospital. The deformity must have been greatly increased during the intervening nine weeks by contraction of the extensor hallucis proprius. The injury is so rare that Gross stated in his "System of Surgery" that he had seen but two cases. Of 22 cases of luxation of the proximal phalanges of the toes Malgaigne found that 19 were of the great toe. In Holmes's "System of Surgery" the analogy between this dislocation and that of the corresponding phalanx of the thumb is pointed out as well as the similar difficulty in reduction. In 4 out of 10 cases referred to by Malgaigne reduction could not be accomplished. In accounting for this difficulty the statement of Gross is not borne out by the present case. He said: "It depends probably on the manner in which the adductor muscle and the sesamoid bones are dragged by the displaced phalanx backward over the extremity of the metatarsal." Here the skiagrams showed clearly the position of the sesamoid bones and that they in no way interfered with reduction.

AT the meeting of the Section of Medicine of the Royal Society of Medicine, to be held on Tuesday, Jan. 27th, there will be a discussion on Vaccines from the Standpoint of the Physician. Dr. T. J. Horder will open the discussion, and will be followed by Sir John McFadyean and Dr. Charlton Briscoe. The discussion will probably be continued on the following Tuesday, Feb. 3rd. Members wishing to take part in the debate should communicate with Dr. John Fawcett, the honorary secretary of the section, at the society's house, 1, Wimpole-street, London, W.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON).—The course of lectures on the Neuroses and Psychoses of Children, which was being delivered by Dr. Francis Warner, consulting physician to the London Hospital, during the winter session of 1913, will be continued during January, February, and March, 1914. These lectures will be delivered every Monday at 4.15 P.M. in the clinical theatre of the hospital, and are intended for students as well as for post-graduates. The subjects remaining to be dealt with are the Study of Modes of Brain Action, Mental Aptitudes, Faults, and Status of the Child; Brain Action corresponding to Motor Signs; Types of Childhood, and Elements of Brain Training; Systematic Training and Mental Hygiene. Further information can be obtained from the Professor William Wright, dean of the college.

[1] Weekly Bulletin of the Department of Health of the City of New York, Nov. 29th, 1913, new series, vol. ii., No. 48.

TOILET SOAPS FROM AN ECONOMIC AND HYGIENIC POINT OF VIEW.

Introductory.

THE following article contains certain instructive details, brought out in a number of analyses that we have made, in regard to the nature and quality of the numerous toilet soaps now at the disposal of the public. We have decided to treat the question on general grounds, avoiding for that reason any invidious reference to the particular goods of a particular maker. It is obvious that the soap-maker knows more of the details of soap-making than we do, but we may be allowed to approach the subject from the point of view of the consumer, and, therefore, to deal with soap as it reaches the public, devoting special attention to economic and hygienic considerations. Soap-makers doubtless work to their own idea of standards and price, but it is well that they should hear an independent expression of opinion upon these points.

General Considerations.

The cleansing power of soap is universally appreciated. It has been used as a detergent from the earliest ages. To-day its manufacture has reached a pitch of refinement upon which both consumer and maker may be congratulated. The quality of soap is of considerable importance, having regard to the frequency of its use in domestic economy, for it is employed with a regularity and orthodoxy comparable with the ritual of meal-time. Soap and food, in fact, rival one another as matters of resource in the *régime* of the domestic day. Soap occupies this position owing to its property of removing greasy materials which amongst other things are responsible for soiling the skin or clothing. Its essential chemical quality is, in fact, its solvent effect upon fatty substances. If dirt were not invariably accompanied by grease soap would not be required to the extent it is, for greaseless dirt would for the most part be detached by the application of water and mechanical movement alone. A prompt method of removing grease would be by the application of an alkali, but this is inadmissible since alkali has an irritating, because solvent, action upon the skin. The grease-dissolving effect of an alkali, however, can be obtained by introducing it in the form of a comparatively unstable compound of fat and alkali, and this is what soap amounts to. Soap on hydrolysis or solution in water dissociates into free alkali and an acid soap. The acid soap gives rise to a lather with water and the alkali is available for extracting fatty matters.

There is thus obtained both a saponifying and emulsifying action on the substance to which soiling is due. The use of soaps in preference to free alkali is justified by the fact that soap prevents the presence of an excessive proportion of free alkali. The proportion of alkali liberated from soap is small with a small quantity of water, and large with a large quantity. The addition of a large quantity of water does not, therefore, greatly affect the concentration (the amount of free alkali in a given volume of water), since, although much water produces much free alkali, it simultaneously dilutes it. In a word, the advantage of soap for cleansing purposes is that by its use there is an automatic regulation of the proportion of free alkali, which is kept constantly small, and hence the wash water is free from injurious properties. This is the secret of soap's power to remove fatty matters which otherwise are hard to detach. Grease is the anchor of dirt, and soap weighs the anchor. Soap is nowhere provided by nature; it is man's creation, and is, in fact, a chemical. The fatty acid is combined in a definite relation with the alkali, although different fats have different combining values, just as different inorganic acids have different combining values in their union with metals. Soap is thus a salt, and the business of the soap-maker is to effect a satisfactory combination of fatty acid and alkali. The soap produced should possess qualities in accordance with the special purpose for which it is intended to be applied. In the present inquiry we deal, however, only with those soaps which are sold for toilet use, and it is obvious that soap of the highest purity and quality is demanded in this case.

According to an examination of a score or so of toilet or fancy soaps recently purchased upon the open market, it would appear that, generally speaking, the makers contrive to furnish a product of good standard quality. On the whole, the toilet soaps supplied show also a close approximation to a standard of composition. That is to say, the proportion of actual soap present is fairly constant, and the amounts and relations of fat and alkali are much the same in the majority of the samples examined. There are exceptions with which we shall presently deal.

The Prices of Toilet Soaps.

There is, however, as will be seen from the table accompanying, a very wide range in regard to the prices at which toilet soaps are sold. In column 1 of this table the prices of the toilet soaps which were procured for examination are given. In the absence of foreign ingredients the figures shown represent the cost of actual dry soap present in the tablet or bar, and are strictly comparative. They represent, in fact, the actual price paid for the cleansing agent. Soap's essential function is, of course, to cleanse, and in reality it is purchased solely for this property, and yet the prices paid for soap to obtain this advantage vary as much as from 6½*d.* to 8*s.* 4*d.* per lb. The explanation of this remarkable difference in the price of a substance which serves one and the same purpose is that there are equally wide differences in quality, depending upon the choice of materials in the manufacture. Special fats may, for example, be selected, or a fancy constituent added in the shape of scent, glycerine, or oatmeal. It is difficult to concede that these considerations can advance the price of the material basis to the large extent shown.

The transparent soap, for example No. 18 in the table, which is free from sugar and glycerine and probably, therefore, made with the aid of alcohol, but unscented, is sold at nearly half the price of No. 24, which is also a transparent soap showing a similar composition but with the difference that it is scented. The analyses of these soaps do not indicate any important difference of quality, but the price of the former is 1*s.* 6*d.* per lb. and of the latter 2*s.* 11½*d.* per lb. This suggests that the price of the soap is much higher merely because it contains scent, the proportion of which is very small. Scent seems to be the chief ingredient relied upon to enhance enormously the cost of soap, for it will be noticed that as a rule the scented soaps are the most costly.

Thus, for an eau-de-Cologne soap 1s. 9½d. is charged per lb., for an "otto of roses" soap the price is 6s. 6d. per lb., for a ladies' face soap, also scented, 8s. 4d. per lb., whereas perfectly good soaps for ordinary toilet purposes can be obtained at 1s. per lb. or under. Viewed as mere cleansing agents these costly soaps are nothing like worth the money charged for them, neither do they exhibit qualities which render them particularly more suitable for personal use as cleansing agents than the well-made soaps costing a shilling or less per pound. There is a further point in regard to scent. It is maintained by some authorities that certain essential oils (the bases of scent) are not suitable for tender skins, as these oils are known to produce a skin-reddening action. Amongst essential oils the irritating effects of mustard oil, turpentine, and thymol are well known.

The Quantity of Fixed Alkali in Soap.

The amount of fixed alkali in toilet soap is a fairly constant quantity, as will be seen from column 6, which gives the alkalinity of the ash calculated as sodium oxide in the dry soap. Any startling variations in these figures would disclose the presence of inert mineral substances. In the absence of such additions the figures in columns 4 and 5 should show a fair agreement. When pure soap is incinerated it leaves an ash which should be pure carbonate of soda. If the weight of the ash agrees with the amount of alkali found in it and calculated as carbonate of soda, it is evident that the soap must be free from foreign mineral additions. The results show, on the whole, that toilet soaps are free from extraneous mineral matters. Exceptions occur in soaps Nos. 9, 13, 16, and 25, but the amounts are not high. They

Analyses of Toilet Soaps.

Reference number of soap.	1 Price per lb. of dry soap.	2 Moisture.	3 Total ash in moist soap.	4 Ash of dried soap.	5 Alkalinity of ash as Na_2CO_3.	6 Alkalinity of ash as Na_2O.	7 Percentage of total alkali (Na_2O) liberated on hydrolysis in 15 min. warm water (110° F.).	8 Sugar.	9 Glycerine.	10 Melting point of fatty acids.	11 Solidifying point of fatty acids.	12 Neutralisation value of fatty acids.	13 Valenta figure.	14 Free alkali.	Description.
1	0s. 6½d.	20·60	13·90	17·50	16·91	9·95	40·60	—	—	41	39	197	24	None.	A yellow opaque tablet.
2	0s. 8½d.	23·60	12·40	16·20	15·98	9·39	20·00	21·40	—	25	23	223	14	Distinct.	Transparent sugar soap.
3	0s. 8½d.	8·10	17·40	18·90	17·17	10·10	30·00	2·28	5·04	35	32	208	22	None.	Glycerine and sugar soap.
4	0s. 9d.	5·00	17·50	18·40	18·02	10·69	39·70	—	—	38	35	192	22	,,	Brown windsor.
5	0s. 9d.	19·00	14·70	18·10	17·91	10·54	38·20	—	—	42	39	213	28	,,	Opaque white tablet floating in water.
6	0s. 9½d.	7·60	17·40	18·80	18·80	11·06	33·30	—	—	39	36	201	22	,,	Brown windsor.
7	0s. 10d.	6·10	17·90	19·00	18·97	11·16	25·00	—	—	36	34	192	23	,,	Brown windsor.
8	0s. 10d.	5·60	17·90	18·90	18·37	10·81	31·80	—	—	38	35	204	26	,,	Described as "honey" soap.
9	0s. 10½d.	10·60	21·00	23·50	17·96	10·57	31·39	—	—	33	29	191	18	Distinct.	Brown windsor.
10	0s. 11½d.	11·60	17·40	18·70	17·91	10·54	39·60	—	—	36	34	187	21	,,	Described as "honey" soap.
11	0s. 11½d.	5·00	18·50	19·47	18·85	11·09	35·10	—	—	38	36	214	25	Traces.	Described as "buttermilk" soap.
12	1s. 0d.	6·10	17·40	18·50	17·64	10·38	29·00	—	—	35	32	195	20	None.	Brown windsor.
13	1s. 0½d.	5·60	19·00	20·10	17·85	10·50	32·80	—	—	41	39	208	27	,,	Pink scented soap.
14	1s. 0½d.	7·10	17·00	18·40	18·44	10·85	33·60	—	—	43	41	205	28	,,	Described as "buttermilk" soap.
15	1s. 0½d.	6·60	17·40	18·60	17·17	10·10	33·80	—	—	40	39	196	28	,,	Scented green tablet.
16	1s. 4½d.	6·60	18·20	19·40	16·33	9·61	40·00	—	—	38	35	210	25	,,	Described as "cold cream and oatmeal."
17	1s. 5d.	22·60	12·40	15·60	14·58	8·58	15·80	5·78	19·30	30	26	203	18	Distinct.	Transparent glycerine soap.
18	1s. 6d.	8·20	14·30	15·50	15·1	8·92	37·70	—	—	37	36	198	23	None.	Unscented transparent tablet.
19	1s. 9½d.	7·60	18·40	19·90	20·23	11·90	38·20	—	—	33	29	217	18	,,	"Eau de Cologne" soap.
20	1s. 10½d.	8·10	17·60	19·15	17·76	10·45	41·90	—	—	39	37	216	25	,,	Strongly scented opaque soap.
21	1s. 11d.	4·60	17·70	18·50	18·17	10·69	33·30	—	—	38	36	204	20	Traces.	Olive green tablet.
22	2s. 1½d.	6·50	16·00	17·10	15·81	9·30	26·00	—	—	41	39	190	21	None.	Described as "superfatted."
23	2s. 9d.	3·60	17·70	18·30	17·47	10·28	35·80	—	—	38	36	193	22	,,	Recommended for baby use.
24	2s. 11½d.	7·10	13·90	14·90	15·58	9·17	32·60	—	—	37	35	208	23	,,	Scented transparent tablet.
25	3s. 6d.	4·80	19·40	20·30	17·69	10·41	31·20	—	—	37	32	211	25	,,	Highly scented pink tablet.
26	3s. 4d.	3·80	17·00	17·60	17·49	10·29	28·00	—	—	45	42	217	29	,,	Described as a "face soap."

Water in Soap.

The proportion of moisture in toilet soaps shows considerable variation, as will be seen from column 2 in the table. As a rule, moisture is excessive, as might be expected, in the cheaper kinds of toilet soap. The highest amount found was in a cheap soap, a transparent bar—viz., 23·60 per cent., and the lowest 3·60 per cent. in an expensive soap. The majority of the soaps examined showed a percentage of water of from 4 to 8. It is of interest to note that soaps containing an excessive amount of water sometimes contained glycerine or sugar or both. (Examples occur in Nos. 2 and 17.)

Sugar and Glycerine in Soap.

Sugar must be regarded as a foreign constituent of soap. Glycerine does not come quite within this category, since it is a product of the saponification of fats, though, as a rule, it is recovered in soapmaking as a separate substance destined for an entirely different purpose from soap itself. Glycerine is generally a declared constituent of soap when it is present in important quantity. It is

serve to show, however, that the practice of adding mineral matter to soap which is not essential for its formation is not obsolete, even in the matter of toilet soaps.

commonly found in transparent or semi-transparent soaps, its presence contributing transparency.

Soaps Nos. 3 and 17 in the table are both called glycerine soaps, and the amounts of glycerine recorded are respectively 5·04 per cent. and 19·30 per cent. In addition to glycerine, both soaps contained sugar, the former 2·26 per cent. and the latter 5·76 per cent., which is probably used to aid the glycerine in producing transparency. The glycerine produced in soapmaking tends to produce a translucent soap, especially if castor oil is used as the fatty substance, but a greater degree of transparency is obtained by the addition of extra glycerine. To the presence of glycerine in soap there can be no objection, as apparently glycerine is not offensive to a sensitive skin. One drawback to its use, however, is that it is very hygroscopic, so that it is apt to make the soap "sweat" or get wet on its surface. Sugar replaces glycerine for the purpose of producing a transparent soap, with the advantage that it does not "sweat," but unfortunately sugar has a decidedly irritating action upon sensitive skins, and the sugar soaps should be avoided by those who possess easily irritated skins. The use of sugar in toilet soaps is, however, not very general according to the results of our inquiries. Neither sugar nor glycerine, it should be pointed out, is essential to the production of transparent soaps. They, and especially sugar, represent cheap methods of obtaining that end. By using alcohol to dissolve the product of saponification, undoubtedly a very pure soap is prepared, a soap which more nearly approaches than anything else to the composition of a theoretically pure soap. Whether the theoretical soap is best for all purposes under all conditions of usage is a question which may well be considered. We are content to point out that transparent soaps of excellent quality are prepared which contain neither glycerine nor sugar, but which are prepared by an alcohol process, the only disadvantage of which is to add to cost of production, and therefore to its price to the consumer. For toilet purposes we are inclined to think that the unscented transparent soap prepared by the alcohol process is one of the best soaps adapted for personal use, including the case of a sensitive skin.

Soap and Water.

However pure a toilet soap may be it must always be remembered that in contact with water it hydrolyses and furnishes a solution containing free alkali as explained in the introductory portions of this article. The skins, therefore, that are sensitive to weak alkaline solutions will be sensitive to the purest soap solutions. But they will be spared the effect of an excess of alkali when a well-made soap is used. It is probable that all skins are more or less susceptible to the action of alkali, and this is the chief reason why a well-balanced soap for toilet purposes is desirable. The proportion of alkali set free on dissolution in water varies with different soaps, but not to a very large extent. In column 7 in the table will be found a series of figures giving the percentage of total alkali liberated on hydrolysis in water as in ordinary washing at 110° F. (comfortably hot) for 15 minutes with various soaps. The highest obtained (No. 20) was 41·80 per cent., and the lowest (No. 17) 15·80 per cent., but most of the soaps gave a number approximating to from 33 to 40 per cent.

It is interesting to observe that the glycerine and sugared soaps in each case yielded a relatively small amount of free alkali on hydrolysis. Apparently glycerine or sugar interferes with the rate of dissolution of soap in water. In some cases this may be an advantage, but in others a disadvantage. The soap which hydrolyses freely is likely to be a ready cleanser, but, on the other hand, the soap that hydrolyses tardily may suit the requirements of a delicate skin. According to this a glycerine soap, for example, may prove to be very suitable for the person with a susceptible skin, but such a soap is not calculated to produce the ready and effective cleansing which a soap free from glycerine or sugar would do.

The Fats in Soap.

Pure neutral fats, whatever their origin, can hardly be held accountable by themselves for any prejudicial action upon the skin, but inasmuch as different fats require varying amounts of alkali in order to convert them into neutral soaps the question of what fat is present in soap is of some importance. Cocoa-nut oil or palm-nut oil, for example, requires much more alkali for saponification than does olive oil, tallow, castor or rape oil, and so a soap made with cocoa-nut oil or palm-nut oil would yield more alkali on hydrolysis in water than a soap made with olive oil, tallow, castor, or rape oil.

For the most part modern toilet soaps are made with nut oils, palm-nut oil, and cocoa-nut oil, whereas early in the history of soap-making tallow and olive oil were employed. Modern soaps therefore yield more alkali on hydrolysis than the old soaps. By some authorities this is regarded as a retrograde step. The modern soap-maker tells us, on the other hand, that cocoa-nut or palm-kernel oils are not used merely for cheapness, or for producing a firm soap, but because of their wonderful efficacy as soap-making material, and besides they are sweet and entirely of vegetable origin and do not easily become rancid. The soaps produced with these oils prove also to be rapid and economical washers. A glance down column 12 of the table will show that the neutralisation values of the fatty acids liberated from the toilet soaps which we procured show certain variations. The lowest figure is 187 and the highest 223. These figures indicate the quantity of potash (KOH) required to neutralise 1000 parts of fatty acid. The majority of the soaps gave numbers well over 200, which points to the use of palm-kernel oils or cocoa-nut oil or a mixture. Some of the soaps, however, gave figures well below 200, and these included some relatively expensive soaps.

There is a great difference in the prices of oils used in soap-making, which must govern to some extent the price of the finished material, and we are told that the recent all-round advance in the price of soap is attributable to the increasing demand for cocoa-nut and palm-kernel oils for edible purposes, and as a matter of fact for the manufacture of butter substitutes. Further observations are presented in the table in regard to other physical constants given by the fatty acids obtained from toilet soaps. The melting points and solidifying points, for example, were observed, and a figure is given, called the Valenta figure, which records the temperature at which a mixture of equal volumes of acetic acid and fatty acid results in a uniformly clear and bright solution. It will be seen that the melting and solidifying points (see Columns 10 and 11) do not show any sharp distinction when comparing cheap and expensive soaps, but the majority of the figures given are well above that of olive oil,

which is 26. Nor do the Valenta figures (see Column 13) help materially to differentiate the cheap from the expensive soaps, but it may be remarked that the majority of them approach the figures given by palm and cocoa-nut oils. Altogether the physical constants tend to show the use of the same fats throughout the series, which includes both cheap and expensive soaps. It should be pointed out, however, that no safe interpretation can be placed upon these results since the soap-maker invariably uses a mixture of fats.

Free Alkali in Toilet Soaps.

Column 14 records the presence or absence of free alkali in toilet soaps. It will be seen that in four cases which include soaps costing under a shilling per pound there was free alkali present, and in two cases of soaps costing over that amount there was evidence also of free alkali. When sugar was present in the soap free alkali was found in two cases out of three. The presence of free alkali in toilet soap is undesirable, but, on the whole, the manufacture of soap is now conducted on such scientific and carefully regulated lines that the output of quite neutral toilet soaps is practically the rule, according to our observations. There are superfatted soaps on the market, but except perhaps that they are generally made with extra care they possess no advantage, at least the suggestion that a small excess of fat gives the soap emollient properties is not accepted by all authorities. It is safe to say, at all events, that a slight excess of fat is to be preferred to the presence of free alkali.

Fancy Names.

The use of fancy names, such as buttermilk, cream, cucumber, honey, and others, where none of these things is present in a soap, is open to criticism. There can be little doubt that a section of the public is guided in the purchase of a soap by its name, the impression being that the name has a definite meaning, implying some superior quality of soap or the presence of a soothing material. Such terms as buttermilk, honey, cream, and cucumber are applied to soaps which are just as plain in their composition as brown windsor. They appear at any rate to be innocent of the presence of the various materials hinted at, and so the description has no literal foundation.

Conclusions.

To summarize, the results show that the toilet soaps on the market as a whole evidence a degree of purity and adaptability for toilet purposes which redound to the credit of the soap-maker. It is obvious that modern soap-making is, generally speaking, founded on scientific lines and run on a system of control which turns out a standard product equal to ascertained requirements. Gross adulteration in regard to toilet soaps does not appear to exist. The only foreign ingredient we found present in important quantity, and to which exception may be taken on account of its irritant properties, is sugar. The presence of free alkali in toilet soap is a comparatively rare occurrence, but it would appear that in some instances the degree of purity attained in toilet soaps induces makers to demand a very extravagant price, and apparently high-grade scents are resorted to as a kind of justification for this demand. It is doubtful whether toilet soap is rendered more acceptable to the skin by the scenting process. Essentially, soap is required for cleansing purposes, and so long as toilet soaps fulfil this rôle without doing harm to the skin they perform all that is necessary. We found this function discharged by toilet soaps sold at moderate prices. Even the purest soaps may give rise to irritation on certain delicately constituted skins. And it must be remembered that in any case the use of soap connotes the use of a weak but regulated quantity of alkali, and so its excessive employment should be avoided; when the work of cleansing has been done it is well to remove any excess of soap with all reasonable speed.

MEDICINE AND THE LAW.

Eastes v. *Russ.*

A FULL account of the issues in this action tried by Mr. Justice Sargant will be found in THE LANCET of June 7th, 1913, p. 1618. The plaintiff having appealed, the Court of Appeal recently affirmed in effect the judgment delivered in the court below, although differing from the reasoning by which Mr. Justice Sargant arrived at his conclusions. His lordship, it will be found, held that a restrictive condition preventing the defendant from engaging in laboratory work within ten miles from the place where he was employed by the plaintiff was co-extensive only with the period of his employment, and also that it was ambiguously expressed. He was not prepared to find that the condition, if for life, was in restraint of trade and more far reaching than was necessary to protect the plaintiff. In the Court of Appeal the Master of the Rolls and Lord Justice Phillimore dissented from the interpretation of the condition as being co-extensive with the term of employment, but held that the restraint sought to be imposed went beyond what was reasonably necessary for the plaintiff's protection, and that accordingly the appeal must fail. Lord Justice Swinfen Eady dissented, being of opinion that the appeal should be allowed.

Bolliger v. *Bridger.*

After a long trial before Mr. Justice Lawrence and a special jury, a verdict for the defendant was returned in an action for assault brought by a girl, 18 years of age, named Freeda Bolliger, who sued through her father as her next friend. The plaintiff had consulted the defendant, Mr. J. D. Bridger, on three occasions in August last, and she alleged that his conduct to her was not that which the treatment of her case required, and that it constituted an assault. In consequence of her daughter's statements the girl's mother attacked Mr. Bridger with a dog whip, and the summons which he took out against her was dismissed. This was followed by a letter from the plaintiff's solicitors to the defendant asking him to pay compensation, which he declined to do, intimating that he should welcome inquiry into the whole of the facts of the case. After the evidence for both parties had been fully gone into, his lordship, in summing up, told the jury that anyone going to a medical man for treatment gave an implied assent to anything reasonably necessary for that treatment. The evidence showed that there had been either a diabolical act by the defendant or a fantastic dream on the part of the girl. There was no evidence to show that she was hysterical, but, on the other hand, there was a medical man working very hard for a meagre remuneration, as to whose high character his friends, teachers who had instructed him, and eminent members of his

profession to whom he had been an assistant, were agreed. It was a matter of human experience that women occasionally made unfounded charges against men, and a commonplace of medical prudence to secure, if possible, the presence of a third person in treating them for the protection not of the patient but of the medical attendant. It was, he suggested, a question not of lying on the part of women but of hallucination and of a perverted conception of what had happened to them. The jury found a verdict for Mr. Bridger. It is a commonplace of forensic practice that charges such as that levelled against him are among the easiest of accusations to bring and the hardest to repel, and that the nature of their professional duties renders medical practitioners peculiarly, and apparently unavoidably, liable to them. Mr. Bridger is to be congratulated warmly upon the satisfactory conclusion of an incident in his professional career of a very painful character.

REPORT ON SANITARY MEASURES IN INDIA IN 1911–12.[1]

European army.—It is very satisfactory to be able to note that the improvement in the health of the European troops serving in India, which has progressed steadily during the past few years, has been maintained. The average daily strength of the European army, including officers, during the year under review was 72,371. The chief causes of mortality were hepatic abscess, enteric fever, heat-stroke, and cholera. It is worthy of note that for the first time on record the death-rate from enteric fever is lower than that of hepatic abscess. Only 24 deaths were recorded from enteric as compared with 46 in 1910 and 113 in 1909. From all causes 515 men were invalided, as compared with 563 in 1910 and 649 in 1909. Diseases of the ear were the chief cause of loss in 1911, the number so invalided being 62. Tubercle of the lungs took second place, 55 being invalided, as compared with 71 the previous year. Nervous diseases caused 54 invalidings and mental diseases 40. As regards the prevalence of important diseases in plain stations where the average annual strength was 500 or more, the incidence of enteric fever was greatest at the cantonments of Bareilly, Lucknow, Belgaum, Fyzabad, and Nowshera; of malaria at Bellary, Mhow, Muttra, Peshawar, and Jubbulpore; of dysentery at Poona, Bangalore, Fyzabad, Fort William, and Lucknow; and of venereal diseases at Colaba, Bellary, Bangalore, Fyzabad, and Madras, including St. Thomas's Mount. Cholera caused 38 admissions and 21 deaths; of these, 26 cases with 12 deaths occurred amongst the 1st Royal Scots at Benares, the source of infection being traced to the batter-supply from an infected dairy in the city where the disease was prevalent. The epidemic was confined to British troops and subsided in three days when precautions had been taken to prevent further infection. Seven cases with 4 deaths occurred amongst the 4th King's Royal Rifles when marching through Dehra Dun from Chakrata. Only 1 case of small-pox occurred during the year. The admissions to hospital for malaria numbered 6527, as compared with 9572 in 1910. There were 6 deaths and 7 invalidings to England. The number of cases of cases of enteric fever is the lowest on record. Throughout the whole of India only 170 cases are returned with 22 deaths; of these, 106 were amongst uninoculated men and 64 amongst the non-inoculated, but as the inoculated amounted to 85 per cent. of the whole the number of the inoculated exposed to infection is more than five times greater than the number of non-inoculated men. Excellent work has been carried out at the enteric fever convalescent depôts at Naini Tal and Wellington, many carrier cases being detected and segregated. Treatment of carriers by means of an autogenous bacillary emulsion has been definitely found to be inoperative.

Indian army.—The health of the Indian troops throughout the year has been very good. Including those on duty in China and in other stations outside India the average strength was 131,213 as compared with 131,274 in the previous year. It is satisfactory to note that the admission, constantly sick, death, and invaliding rates were lower than in 1910. The chief causes of sickness were malaria, pyrexia of uncertain origin, respiratory diseases, and dysentery; the chief causes of death were pneumonia, enteric fever, malaria, and respiratory diseases. The number of invalidings was 581 as compared with 684 in 1910, the chief causes of this source of loss being tubercle of the lungs, injuries, anæmia, and debility and venereal diseases. The highest death-rate in any of the larger stations was 14·18 per 1000 at Dehra Dun, the chief cause of mortality being enteric fever. The number of cases of cholera in the Indian army was 16 and the number of deaths was 14. No individual regiment had more than two cases. Small-pox caused 36 admissions with no death. Malaria gave 13,778 admissions and 55 deaths. Enteric fever caused 302 admissions with 55 deaths. Anti-typhoid inoculation is being introduced in many regiments. There was a marked increase in the incidence of plague. The total number of admissions during the year was 95 with 35 deaths, as compared with 31 cases with 22 deaths in 1910. Tubercle of the lung gave 56 admissions amongst Gurkhas with 11 deaths. Dysentery caused 2971 admissions with 16 deaths, and venereal diseases 1950 admissions with 4 deaths.

General population.—This section of the report deals with the several provinces of British India. The total number of births and deaths registered were 9,209,703 and 7,639,544 respectively. The deaths from the chief diseases were as follows: Cholera, 354,005; small-pox, 58,535; plague, 733,582; fever, 4,207,356; dysentery and diarrhœa, 253,636; respiratory diseases, 223,822; and "all other causes," 1,710,641. Taking British India as a whole, the number of deaths under each of the headings tabulated, except under small-pox and plague, were fewer in 1911 than in the preceding year. All the provinces except Bengal, Eastern Bengal and Assam, and the Central Provinces, contributed towards the increase under small-pox. The increase in the number of deaths from plague was caused principally by epidemics in Bengal, the United Provinces of Agra and Oudh, the Punjab, and Bombay. The cholera mortality of India was reduced from that of 1910 by nearly 18 per cent., and the number of deaths from "fever" shows a decline when compared with the preceding two years. As regards the Red Sea pilgrim traffic, it is noted that 18,014 pilgrims left the Port of Bombay for Mecca *viâ* Jeddah; 8278 of these were vaccinated before they left Bombay and many of the remainder had been vaccinated before they left their homes. No case of either plague or small-pox occurred on the 23 ships carrying them, but on the outward voyage 106 deaths occurred among the pilgrims, the cases being attributed to fever, old age, debility, &c.

The jails of India.—The mean daily number of prisoners in India, Burma, and the Andamans during 1911 was 109,099—1356 less than in 1909. The rates of mortality from all causes fell to 19·09 per 1000 from 21·62 in 1910. The diseases to which the greatest amount of sickness were due were: malaria (admission rate 113·8 per 1000), dysentery (56·6), diarrhœa (36·6), and respiratory diseases (28·3); while the principal causes of death were tubercle of lungs (3·65), dysentery (2·91), and pneumonia (2·37). Excluding tubercle of the lungs there has been a tendency towards lower death-rates from all other causes as compared with 1910. An epidemic of scurvy and pyorrhœa alveolaris occurred at Sylhet, which was responsible for 35 deaths as compared with 18 in the previous year.

Vaccination.—During the year 1911–1912 there were performed in British India a total of 9,684,249 vaccination operations, there being an increase in every province except Coorg, the average cost of each successful case being approximately threepence. In the Assam report it is explained that the failure of the lymph was due to one or both of two causes—first, a decrease in the potency of the lymph strain; and second, to exposure to heat during the interval between issue and use. To remedy the first, endeavour was made to exalt the potency of the lymph by passage of the strain through a rabbit before being re-inoculated on calves. As to the second, the lymph was packed in flasks made on the "Thermos" principle and sent to the

[1] East India (Sanitary Measures), vol. xlv., presented to both Houses of Parliament by Command of His Majesty, 1913. London: Wyman and Sons. Price 11*d*.

provincial laboratory at Dacca, where it was packed in ice and sent out to vaccinators by post in weekly supplies. The result of the experiment showed that if suitable measures are employed to ensure the potency of the lymph by careful selection of vesicles and passage through an alternative vaccinifer no special arrangements of packing, despatch, and distribution are necessary to prevent October and November failures. In the United Provinces of Agra and Oudh it is reported that there was a decrease in the issue of lymph in glass capillary tubes and an increase of the supply in bulk. This was due to the introduction of the method of supplying lymph in metal collapsible tubes which are cheaper and reduce labour. Arm-to-arm vaccination has now been replaced by vaccination with calf lymph in 22 districts, and during the ensuing season it is proposed to extend the supply to 11 additional districts, bringing the total to 33 of the 48 districts of the United Provinces. In the North-west Frontier Province the attitude of the people towards vaccination is not one of hostility, but there is the usual amount of apathy, laziness, and of disinclination to be annoyed. The principle involved and protection conferred are well understood, and it is always noted that if small-pox is looming on the horizon the vaccination returns go up considerably. It is considered inadvisable to attempt to enforce the Vaccination Act in the province; the steady increase in the work is regarded as proof that the people are beginning to appreciate the benefits of the proceeding.

Medical institutions.—This section of the report is contributed by the Director-General of the Indian Medical Service. The State-public, local fund, and private-aided hospitals and dispensaries in British India now number 2707, an increase by 37 on the figure for 1910, and the demand for more is felt everywhere. The system of supplying treatment to the population in areas where no dispensaries yet exist, by means of an itinerating staff, has been extended in the United Provinces of Agra and Oudh and in the Punjab, and has been attended with much success. Expenditure rose from £783,123 in 1910 to £863,168 in 1911—an increase of 10 per cent.; but Indian subscriptions remained practically stationary, amounting to only £47,252, or a little over 5 per cent. of the whole. The population generally shows little desire to share in the burden of providing the institutions, though it makes use of them in ever-increasing numbers. During the year under review the total number of in-patients treated were 460,671 and out-patients 27,595,176, while the total number of operations performed was 1,139,060. In Calcutta it is noted that the new (Rogers) treatment for cholera was most successful, the recoveries varying from 60·77 per cent. to 70·59 per cent. In the United Provinces of Agra and Oudh the institution of travelling dispensaries has been very successful, and more than accounted for the decrease in attendance elsewhere, as they dealt with over 300,000 patients not included in the official totals.

Medical colleges and schools.—There are four colleges which afford the course for university degrees and also train military assistant surgeons. During the year the students numbered 1553 civil and private male, 93 female, and 204 military students. There are 14 schools which train civil, military, and private pupils for the passing-out diploma. The students numbered 1865 male, civil and private, 287 military, and 135 females. The X ray institute at Dehra Dun continues to carry out excellent work. Two classes of instruction were held during the year. The number of post-graduate students attending was 35; these included officers of both services (civil and military), assistant surgeons, and sub-assistant surgeons. A quantity of new apparatus employed in electro-therapy has been received by the institute during the year, including apparatus employed in ionic medication. No case of X ray traumatism occurred to any of the staff, students, or patients of the institute.

Sanitary works.—In the past, owing generally to funds being limited, progress in respect of sanitary works has necessarily been slow. Interest in sanitation has, however, been growing, and a distinct advance has now been possible in consequence of the large and special grants made to the provinces by the Government of India. In Bengal a steady improvement is recorded in the working of the septic tank installations. A new type of distributor has been designed which has largely solved the question of distribution over the filter beds. It is claimed that the septic tank latrine installations are now practically perfect in design. The chlorinating of all the effluent is now stated to be extremely well done, and it is seldom that a mild effluent is found that is not practically sterile. In the United Provinces of Agra and Oudh good progress has been made in drainage works and other forms of town improvement in the larger municipalities. The waterworks, with the exception of those at Allahabad, generally gave good results. In the Punjab, it is noted that sewerage on a large scale has commenced and that the waterworks extension is in progress. In the Central Provinces a considerable degree of improvement is reported in municipal towns, but it is said much remains to be done. Although poor, as most of the municipalities are, the provincial Sanitary Commissioner remarks that this is not the cause of sanitation being gravely defective—it is because responsible persons do not personally interest themselves and municipal members have not sufficient responsibility.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

MEETING OF COMITIA.

AN extraordinary Comitia was held on Dec. 22nd, 1913, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, being in the chair.

The following communications were received: 1. From the secretary of the Royal College of Surgeons of England, dated respectively Nov. 13th and Dec. 15th, reporting proceedings of the Council of that College upon those days. 2. From the secretary of the Royal Sanitary Institute, dated Nov. 25th, inviting the College to appoint delegates to their Congress which is to be held in Blackpool in July next. It was resolved that it should be left to the President to appoint delegates at a later date. 3. From the chairman of the Royal Commission on Venereal Diseases, dated December, 1913, asking suggestions as to suitable witnesses to be called, especially respecting the more indirect effects of syphilis in producing organic disease, and upon the subject of remedial measures. The President was delegated to nominate Fellows as witnesses. 4. From Mr. A. M. Burke, dated Dec. 6th, asking permission to photograph the portrait of Sir Thomas Millington. The request was granted.

A report was received from the Representative of the College upon the General Medical Council (Dr. Norman Moore).

A report was received, and adopted, from the Committee of Management dated Dec. 16th. The report was as follows:—

1. The Committee of Management have considered a recommendation of the examiners for the Diploma in the Diseases and Hygiene of the Tropics, that the examination be divided into two parts, and as the committee are of the opinion that it is desirable to adopt this proposal, they recommend that the following new Clauses be substituted for Clauses I. to III. of the existing regulations, viz.:—
   I. The examination will be held in the months of April and July.
   II. The examination will consist of two parts.
      Part I. will comprise—(*a*) written questions; (*b*) oral questions; and (*c*) practical laboratory work in the following subjects: pathology and hæmatology, bacteriology, general parasitology, and protozoology.
      Part II. will comprise—(*a*) written questions; (*b*) oral questions; and (*c*) clinical and laboratory work in tropical diseases and hygiene. This will include helminthology, protozoology, zoology, and entomology in their relations to clinical medicine.
   III. The fee for admission to Part I. is £5 5*s*., and the fee for admission to Part II. is £4 4*s*.
   IV. Candidates may enter for Parts I. and II. separately, or together, but they will not be allowed to proceed to Part II. until they have passed Part I.
2. The committee also recommend that the following institutions which have been visited by a member of the committee and reported on as fulfilling the requirements of the Board, be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry and physics—viz.: St. Chad's College, Denstone; Bournemouth Municipal College; and Bournemouth School.

After some further formal business the PRESIDENT dissolved the Comitia.

PRESENTATION TO A MEDICAL MAN.—Dr. Emyr Owen Price, medical officer and public vaccinator for Bangor district of Carnarvonshire, has been presented by his professional colleagues with a motor-car in recognition of the work which he has done on behalf of his profession in connexion with the National Insurance Act.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of 1913 is estimated at 17,852,766 persons, 8321 births and 4997 deaths were registered during the week ended Saturday, Dec. 20th, 1913. The annual rate of mortality in these towns, which had been 14·1, 13·2, and 14·5 per 1000 in the three preceding weeks, further rose to 14·6 per 1000 in the week under notice. In the first 12 weeks of the December quarter the mean annual death-rate in these towns averaged 13·8, or 0·1 per 1000 more than the corresponding rate in London. Among the several towns the death-rate in the week under review ranged from 4·2 in Ilford, 6·7 in Acton, 7·6 in Gillingham, 7·9 in Bury, and 8·2 in Cambridge, to 23·2 in Dewsbury, 23·6 in South Shields, 24·5 in Smethwick, 26·4 in West Bromwich, and 29·0 in Middlesbrough.

The 4997 deaths from all causes were 45 in excess of the number in the previous week, and included 341 which were referred to the principal epidemic diseases, against 269 and 324 in the two preceding weeks. Of these 341 deaths, 96 resulted from infantile diarrhœal diseases, 69 from diphtheria, 62 from measles, 56 from whooping-cough, 38 from scarlet fever, and 20 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·0, against 0·8 and 0·9 per 1000 in the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 152, 101, and 94 in the three preceding weeks, were 96 in the week under notice; of this number 27 were registered in London, 7 in Manchester, 5 in Stoke-on-Trent, and 4 each in Birmingham, Sheffield, and Rhondda. The deaths referred to diphtheria were 69, against 65, 45, and 70 in the three preceding weeks, and included 12 in London, 4 in Stoke-on-Trent, 4 in Manchester, and 3 each in Southampton, Birmingham, and Liverpool. The fatal cases of measles, which had been 39, 40, and 54 in the three preceding weeks, further rose to 62, of which number 12 occurred in Burnley, 8 in Middlesbrough, 7 in Sheffield, 5 in London, 4 in West Bromwich, and 3 each in Stoke-on-Trent, Stockport, and Bradford. The deaths attributed to whooping-cough, which had been 39, 32, and 57 in the three preceding weeks, were 56, and included 10 in London, 6 in Birmingham, 6 in Liverpool, and 3 each in Norwich, Manchester, Hull, and Leeds. The deaths referred to scarlet fever, which had been 35, 37, and 23 in the three preceding weeks, rose to 38; 7 deaths from this disease were recorded in London, 5 in South Shields, 3 in Birmingham, and 2 each in Great Yarmouth, Wallasey, Liverpool, and Sunderland. The fatal cases of enteric fever, which had been 18, 14, and 26 in the three preceding weeks, declined to 20, and included 5 in London and 2 in Newcastle-on-Tyne.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 4112, 4143, and 4137 at the end of the three preceding weeks, had further declined to 4048 on Dec. 20th; 458 new cases were admitted during the week, against 618, 524, and 552 in the three preceding weeks. These hospitals also contained on Dec. 20th 1156 cases of diphtheria, 169 of whooping-cough, 60 of measles, and 58 of enteric fever, but not one of small-pox. The 1278 deaths from all causes in London were 48 in excess of the number in the previous week, and were equal to an annual death-rate of 14·7 per 1000. The deaths referred to diseases of the respiratory system, which had been 261, 227, and 291 in the three preceding weeks, further rose to 307, and were 22 in excess of the number in the corresponding week of last year.

Of the 4997 deaths from all causes in the 96 towns, 197 resulted from various forms of violence, and 431 were the subject of coroners' inquests. The causes of 25, or 0·5 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Liverpool, Manchester, Leeds, Bristol, Bradford, Hull, and in 59 other smaller towns. Of the 25 uncertified causes of death, 6 were registered in Birmingham, and 2 each in Preston, Sheffield, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of 1913, 1249 births and 751 deaths were registered during the week ended Saturday, Dec. 20th, 1913. The annual rate of mortality in these towns, which had been 17·0, 15·6, and 17·0 per 1000 in the three preceding weeks, further rose to 17·3 per 1000 in the week under notice. During the first twelve weeks of the December quarter the mean annual death-rate in these towns averaged 15·4, against a corresponding rate of 13·8 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rate in the week under review ranged from 8·9 in Perth, 9·8 in Clydebank, and 13·5 in Hamilton, to 22·5 in Paisley, 25·6 in Kilmarnock, and 26·0 in Ayr.

The 751 deaths from all causes were 17 in excess of the number in the previous week, and included 79 which were referred to the principal epidemic diseases, against numbers rising from 68 to 86 in the four preceding weeks. Of these 79 deaths, 39 resulted from measles, 14 from infantile diarrhœal diseases, 12 from diphtheria, 11 from scarlet fever, and 3 from whooping-cough, but not one from enteric fever or from small-pox. The mean annual death-rate from these diseases was equal to 1·8, against 1·0 per 1000 in the 96 large English towns. The deaths attributed to measles, which had been 35, 40, and 36 in the three preceding weeks, rose to 39 in the week under review, and included 16 in Glasgow, 5 in Paisley, 4 in Edinburgh, 3 in Leith, and 3 in Kirkcaldy. The deaths of infants under 2 years referred to diarrhœa and enteritis, which had been 8, 14, and 13 in the three preceding weeks, were 14, of which number 6 occurred in Glasgow, 2 in Edinburgh, and 2 in Hamilton. The fatal cases of diphtheria, which had been 14, 12, and 17 in the three preceding weeks, declined to 12, and included 4 in Aberdeen, 3 in Glasgow, and 2 in Greenock. The deaths attributed to scarlet fever, which had been 11, 8, and 12 in the three preceding weeks, were 11 in the week under review, and included 5 in Glasgow and 3 in Kilmarnock. The 3 deaths referred to whooping-cough were slightly below the average in the earlier weeks of the quarter, and were recorded in Glasgow, Greenock, and Kirkcaldy respectively.

The deaths referred to diseases of the respiratory system, which had been 129, 123, and 157 in the three preceding weeks, declined to 139 in the week under notice; 32 deaths resulted from different forms of violence, against 23 and 30 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,199,180 persons at the middle of 1913, 529 births and 435 deaths were registered during the week ended Saturday, Dec. 20th. The annual rate of mortality in these towns, which had been 16·6, 16·0, and 17·7 per 1000 in the three preceding weeks, further rose to 18·9 per 1000 in the week under notice. During the first 12 weeks of the December quarter the mean annual death-rate in these Irish towns averaged 17·3 per 1000; in the 96 large English towns the corresponding rate did not exceed 13·8, while in the 16 Scotch towns it was equal to 15·4 per 1000. The annual death-rate in the week under review was equal to 20·3 in Dublin (against 14·7 in London and 17·6 in Glasgow), 18·6 in Belfast, 23·1 in Cork, 11·4 in Londonderry, 17·6 in Limerick, and 34·2 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 12·8 per 1000.

The 435 deaths from all causes were 28 in excess of the number in the previous week, and included 36 which were referred to the principal epidemic diseases, coinciding with the number recorded in each of the two preceding weeks. Of these 36 deaths, 11 resulted from infantile diarrhœal diseases, 8 from scarlet fever, 8 from diphtheria, 6 from whooping-cough, 2 from measles, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·6 per 1000; in the 96 large English towns the corresponding rate did not exceed 1·0, while in the 16 Scotch towns it reached 1·8 per 1000. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 12, 13, and 6 in the three preceding weeks, rose to 11 in the week under review, and comprised 8 in Dublin, 2 in Galway, and 1 in Belfast. The deaths referred to scarlet fever, which had been 5, 13, and 8 in the three preceding weeks, again numbered 8, of which 5 occurred in Belfast and 3 in Dublin. The 8 fatal cases of diphtheria, of which 6 were registered in Dublin, coincided with the number recorded in the previous week. The 6 deaths attributed to whooping-cough were 2 in excess of the average in the earlier weeks of the quarter, and included 3 in Belfast. The fatal cases of measles were recorded in Dublin and Galway respectively, and that of enteric fever in Dublin.

The deaths referred to diseases of the respiratory system, which had been 76, 73, and 92 in the three preceding weeks, fell to 80 in the week under notice. Of the 435 deaths from all causes, 136, or 31 per cent., occurred in public institutions, and 5 resulted from various forms of violence. The causes of 18, or 4·1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death did not exceed 0·5 per cent.

THE SERVICES.

THE FOOD REQUIREMENTS OF THE BODY IN ACTIVE SERVICE.

An important contribution to the study of practical dietetics has recently appeared in the shape of a report[1] on two experimental marches carried out for the purpose of deciding on a scale of field rations under strictly supervised conditions. These marches were performed in the autumns of 1909 and 1910. In 1909 the party consisted of 20 men of the Loyal North Lancashire Regiment, 3 men of the Army Service Corps, and 3 of the Royal Army Medical Corps, together with an officer of the regiment in command and three officers in medical charge and for the purpose of taking scientific observations. The marching took place on Salisbury Plain between Oct. 10th and 23rd, the weather conditions being unfortunately very unfavourable, rain falling every day almost, and generally heavily. Exact observations were made as to the amount of food consumed, the distances traversed, and the weights carried. The dietary supplied yielded protein averaging 186 grammes in the first six days and 141 grammes afterwards; the fat was about 50 grammes, and afterwards 110 grammes; and the carbohydrates 505 and 450 grammes in these two periods respectively; the total average Calorie value being 3465. It was found that in the first week 13 men gained and 7 lost weight; in the second week only 2 men gained and the remainder lost. The average gain in the first week was 0·32 kg.; the average loss in the second week 1 kg. For the whole period 5 men gained and 15 lost weight, the balance of loss being 0·69 kg. per man; that is, the difference between the average weight at the beginning (64·15 kg.) and at the end of the march (63·46 kg.). The increase in weight during the first few days is considered to have been due mainly, if not entirely, to retention of water in some form, probably in muscular tissue. During the last five days of the experiment there was an average daily loss of 234 grammes (about ½ lb.) in the case of the 20 men, and of 334 grammes (about ¾ lb.) in the case of the four officers. This was not due only, or chiefly, to diminution of fat, but to loss of muscle, and perhaps also of liver tissue. The loss was, as might be expected, proportionately greater in the heavier men. The results indicated a deficiency in the ration supplied, especially in the amount of fat. The committee carefully considered the composition of the field ration and the relative proportions of the different food constituents, and recommended that the potatoes (weighing ½ lb.) be omitted, and that there should be substituted 2 oz. bacon, 2 oz. Cheshire or Cheddar cheese, 2 oz. dried peas, beans, or lentils (or 2 oz. oatmeal), 3 oz. coffee, milk, and sugar (in block form), and 4 oz. jam (additional to the existing issue). Also that pickles or other condiment should be supplied, either daily or two or three times a week. The second march was carried out from August 17th to 30th, 1910, the party consisting of 20 men of the Somersetshire Light Infantry, 4 men of the Army Service Corps, a serjeant-major and 3 men of the Royal Army Medical Corps, with a regimental officer, an Army Service Corps officer, and three officers of the Royal Army Medical Corps. On each occasion the men were volunteers, and received a consideration of 1*s.* 6*d.* a day for their services. The procedure was similar to that of the previous year, and the weather conditions (if possible) worse. The area selected was Dartmoor, the camp being pitched at Willsworthy, near Lydford. Rain fell every day, and almost continuously for the last three days; the temperature was abnormally low, the wind high, the camp unsheltered, the site peaty. In spite of these depressing accompaniments the behaviour of the men was excellent and the conditions of the experiment loyally observed by all. The health of the entire party was very good, except for slight diarrhœa in some (probably due to chill) towards the end of the experiment. In addition to the amount of food previously supplied, 2 oz. of bacon, of cheese, and of oatmeal were issued daily, and the tea, sugar, and jam very slightly increased. In this dietary during the first week the protein averaged 207 grammes, the fat 142 grammes, and the carbohydrates 570 grammes, the whole having an energy value of 4508 Calories. During the second week the respective amounts of protein, &c., were 176, 175, and 529 grammes, with a total energy value of 4515 Calories. The average daily external work of the march (1419 Calories) was more than in 1909 (1034 Calories), the average length greater (14¼ miles, compared with 12¼ miles), the roads being also more hilly, though of better surface. As in the former march, an initial rise in weight was followed by a fall. On this occasion the increase in weight over the whole period was experienced by 10 of the men, 8 lost weight, and 2 made up in the second week for loss of weight during the first. The increase in protein, fat, and carbohydrate provided during the second march is considerable when compared with the corresponding amounts issued during the first march; and the total average Calorie value (4511) of the second is 30 per cent. higher than that of the first dietary (3465). The appearance of the men was strikingly different on the second occasion. No man showed any sign of wasting, no hollow cheeks, no sunken eyes. The first expedition was (unofficially) known amongst the troops as the "hunger march," which aptly expresses the view of the rank and file; but after the second march a considerable number of men expressed regret that it was not going to extend over another fortnight. The report must be consulted for details of weights, distances, food quantities, &c., all of which are set out in an admirably clear and complete manner. It is satisfactory to learn from the preface that the Army Council have approved of the field service ration (weighing 3 lb. and yielding 4500 Calories) recommended by the committee, and have directed that experiments in lightening the equipment should be continued.

[1] Wyman and Sons, Cd. 7182, price 1*s.* 1*d.*

ROYAL NAVY MEDICAL SERVICE.

Fleet-Surgeon Cyril James Mansfield, M.V.O., has been promoted to the rank of Deputy Surgeon-General in his Majesty's Fleet (dated Sept. 27th, 1913).

The following appointments have been notified:—Fleet-Surgeon: H. B. Maryiott to the *Egmont*. Staff-Surgeons: J. J. H. Rooney to the *Albemarle*; J. D. Keir to the *Matine*, and on recommissioning; and P. T. Sutcliffe to the *Hindustan*. Surgeons: C. M. R. Thatcher to the *Victory*, additional, for long course of physical training; and G. B. Cockran to the *Europa*, for voyage out and home.

ROYAL NAVAL VOLUNTEER RESERVE.

The rank of Surgeon Probationer in the Royal Naval Volunteer Reserve has been approved, the relative rank being that of sub-lieutenant. While undergoing training afloat or a hospital course these officers will receive pay at the rate of 5*s.* a day, and in the latter case a hospital allowance at the rate prescribed for Surgeons, R.N. The pay and allowances on actual service will be the same as those payable while under training, with the addition of a special allowance of 2*s.* a day.

ARMY MEDICAL SERVICE.

Colonel Alexander F. Russell, C.M.G., is placed on retired pay (dated Dec. 21st, 1913). Lieutenant-Colonel Neville Manders, from the Royal Army Medical Corps, to be Colonel, vice A. F. Russell, C.M.G. (dated Dec. 21st, 1913).

ROYAL ARMY MEDICAL CORPS.

Major James C. Jameson to be Lieutenant-Colonel, vice N. Manders (dated Dec. 21st, 1913).

Colonel F. H. Treherne has been selected for appointment as Honorary Surgeon to the Viceroy of the East Indies, vice Lieutenant-Colonel H. N. Thompson, appointed Deputy Director of Medical Services to the Scottish Command. Colonel N. Manders has embarked for Egypt.

Lieutenant-Colonel J. M. F. Shine has been appointed to hold charge of the Military Hospital at Nowshera Cantonment, vice Major J. Smith. Lieutenant-Colonel C. W. R. Healy has been appointed to hold charge of the Medical Division at the Royal Herbert Hospital, Woolwich, vice Lieutenant-Colonel A. R. Aldridge, C.S.I. Lieutenant-Colonel J. Fallon has been selected for the increased rate of pay under Article 358 of the Royal Warrant. Lieutenant-Colonel J. Girvin has arrived home for duty from Ahmednagar Cantonment. Lieutenant-Colonel H. E. Winter and Lieutenant-Colonel G. A. T. Bray have exchanged positions on the roster; the latter officer will remain on the Home Establishment. Lieutenant-Colonel T. G. Lavie has arrived home on general leave of absence from Malta.

Major G. St. C. Thom has arrived home for duty from India. Major W. S. Harrison has been placed under orders for a tour of duty in Jamaica. Major A. W. Sampey has been appointed to hold medical charge of the Enteric Fever Convalescent Depôt at Wellington Cantonment, Madras Presidency. Major H. F. Shea has been selected for appointment as Specialist in Advanced Operative Surgery to the Lahore Division of the Northern Army in India. Major B. Watts has arrived home for duty from Meerut Cantonment. Major W. J. Waters has taken up duty at Tientsin. Major H. O. B. Browne-Mason has assumed the permanent appointment of Deputy Assistant Director of Medical Services (Mobilisation) to the Poona Division. Major S. A. Archer has been appointed to the Belfast District. Major N. H. Ross has been placed in charge of the Bacteriological Research Laboratory at Brigade Headquarters, Fyzabad Cantonment. Major St. J. B. Killery has arrived home on general leave of absence from Bangalore Cantonment. Major J. S. Bostock has been appointed for duty to the Aldershot Command. Major J. E. Hodgson has been transferred from the London District to the Northern Command. Major C. H. Hopkins has taken over medical charge at Devizes. Major B. F. Wingate has been appointed to the London District for duty.

Captain T. S. Dudding has embarked for India. Captain A. W. Byrne has been selected for appointment as Deputy Assistant Director of Medical Services (Sanitary to the

Lahore Division of the Northern Army in India. Captain J. A. Turnbull has been appointed to hold charge of the Military Hospital at Kamptee Cantonment. Captain J. J. O'Keefe has arrived home for duty from India. Captain D. E. Curme has been transferred from Aldershot to the Northern Command for duty at York. Captain A. Hendry has arrived home from the Military Hospital at Colaba, Bombay, on general leave of absence. Captain N. E. J. Harding has been selected for appointment as Medical Officer to the Tower of London. Captain K. A. C. Doig has embarked for service in India. Captain H. W. Russell has been placed in charge of the Bacteriological Research Laboratory at Brigade Headquarters of the Sirhind Brigade at Ambala Cantonment. Captain M. B. H. Ritchie has been appointed for duty at the Military Hospital, Colchester. Captain W. Benson has been transferred from the Royal Herbert Hospital at Woolwich to the Aldershot Command. Captain J. A. W. Webster has embarked for a tour of duty in India. Captain T. H. Dickson has arrived home on general leave of absence from the Military Hospital at Gibraltar. Captain W. B. Purdon has taken up duty at the Military Hospital, Belfast. Captain P. Power has embarked for a tour of service in India. Captain E. L. Moss has been transferred from Salisbury Plain to the Portsmouth District. Captain A. E. F. Hastings has taken up duty at the Military Hospital, Chatham. Captain J. du P. Langrishe has been appointed to the Irish Command. Captain W. D. C. Kelly has taken up duty at Pretoria as Specialist in Advanced Operative Surgery. Captain G. W. W. Ware has been transferred from the Military Hospital at Youghal to Kilkenny. Captain G. De la Cour has taken up duty at the King George V. Military Hospital, Dublin. Captain E. W. M. Paine has joined at Manchester for appointment as Recruiting Medical Officer on the Staff. Captain M. Keane has been transferred from Warwick to the Military Hospital at Bulford Camp, Salisbury Plain. The following Captains have joined the Royal Army Medical College at Millbank for the courses of instruction for promotion to the rank of Major:—F. A. McCammon, A. Dawson, F. Forrest, V. C. Honeybourne, V. G. Johnson, C. R. M. Morris, R. E. U. Newman, E. W. M. Paine, and J. B. Grogan.

INDIAN MEDICAL SERVICE.

The King has approved of the promotion of Major George Yeates Cobb Hunter to Lieutenant-Colonel (dated Nov. 17th, 1913).

The King has approved of the retirement of the following officers:—Colonel Alfred Woodrow Stanley Wingate (dated Dec. 19th, 1913) and Lieutenant-Colonel Edward Ross Morton (dated Nov. 27th, 1913).

Surgeon-General Sir C. Pardey Lukis, K.C.S.I., has been appointed an additional member of the Imperial Legislative Council, vice Surgeon-General A. M. Crofts, C.I.E., resigned.

Colonel J. Crimmin, V.C., C.B., C.I.E., has been selected for appointment as Assistant Director of Medical Services to the Derajat and Bannu Brigades, in succession to Colonel E. B. Grayfoot, transferred. Colonel P. Hehir has been transferred from the Burma Division to the Sixth (Poona) Division of the Southern Army, and appointed Assistant Director of Medical Services, vice Surgeon-General T. M. Corker, transferred to Secunderabad.

Lieutenant-Colonel A. W. T. Buist has taken up duty at Campbellpore as Superintendent of the District Jail, vice Captain H. C. Keates, transferred. Lieutenant-Colonel G. McI. C. Smith, civil surgeon, has been appointed to Ludhiana, relieving Captain A. K. Lauddie, transferred. Lieutenant-Colonel C. N. C. Wimberley has been selected for appointment as Deputy Assistant Director of Medical Services (Mobilisation) to the Secunderabad Division, vice Lieutenant-Colonel D. D. Shanahan, tour expired. Lieutenant-Colonel G. B. Irvine has arrived home on general leave of absence from India. Lieutenant-Colonel G. Bidie has been granted an extension of leave of absence home from India.

Major W. R. Battye has been selected for appointment as Residency Surgeon at Mewar State. Major H. J. Walton has been selected for appointment as Professor of Pathology on the staff of King George's Medical College at Lucknow. Major W. Glenn Liston, director of the Bombay Bacteriological Laboratory, has been appointed to act as Senior Member of the Plague Research Commission. Major S. R. Christophers has been appointed to officiate as Director of the Central Research Institute at Kasauli during the absence on special duty of Major W. F. Harvey. Major J. W. Watson has been selected by the Foreign Department of the Government of India for appointment as Agency Surgeon in the State of Bhopal. Major G. McPherson has been appointed Presidency Surgeon, Second District Bombay, and to hold medical charge of the Common Prison, the House of Correction, and the Byculla Schools. Major E. C. MacLeod has been selected for appointment as Civil Surgeon at Darrang, Assam. Major W. H. C. Forster has arrived home on combined leave of absence from India. Major A. Gwythier, civil surgeon at Rajshahi, has been appointed for temporary duty under the Director-General, Indian Medical Service. Major H. A. J. Gidney, civil surgeon in charge of the Naga Hills District, has been appointed to Delhi in connexion with anti-malarial prevention. The services of Major A. C. MacGilchrist have been placed temporarily at the disposal of the Education Department of the Government of India. Major D. McCay has been granted leave of absence for seven months.

The services of Captain G. Holroyd have been placed at the disposal of the Lieutenant-Governor of the United Provinces of Agra and Oudh by the Government of Bengal, to officiate as Superintendent of the Central Prison at Bareilly, vice Captain J. F. Boyd. Captain F. H. Salisbury has arrived home on leave of absence from India. Captain H. G. Stiles Webb has been appointed for duty to the Sanitary Department of the North-West Frontier Province. Captain R. B. Lloyd has been appointed to officiate as Chemical Examiner to Bengal Presidency and Professor of Chemistry in the Government Medical College at Calcutta. Captain T. J. C. Evans has been appointed to hold civil medical charge of the Manipur State. Captain R. T. Wells has been transferred from Lahore to Jullundur and appointed Plague Medical Officer. Captain C. A. Gill, officiating civil surgeon, has been appointed Chief Malaria Medical Officer in the Punjab on return from leave in succession to Captain H. G. Stiles Webb. Captain M. J. Holgate has been appointed provisionally to hold charge of the Cantonment General Hospital at Quetta, vice Major G. Brouse. Captain B. E. M. Newland has taken up duty at Etawah. Captain J. O'Leary has arrived home on general leave of absence from India. Captain F. R. Coppinger has been appointed Staff-Surgeon at the Crater, Aden, in addition to his other duties, vice Captain E. D. Caddell, R.A.M.C.

Lieutenant B. F. Eminson has been appointed to officiate as medical officer to the 127th Queen Mary's Own Baluch Light Infantry.

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd East Anglian Field Ambulance, Royal Army Medical Corps: Captain James M. G. Bremner to be Major (dated Nov. 5th, 1913).

2nd Western General Hospital, Royal Army Medical Corps: Lieutenant-Colonel Graham Steell resigns his commission (dated Dec. 24th, 1913).

1st London Divisional Clearing Hospital, Royal Army Medical Corps: Major Alexander Barclay Lyon, from the List of Officers attached to Units other than Medical Units, to be Lieutenant-Colonel (dated Nov. 28th, 1913).

Attached to Units other than Medical Units.—Captain Edward R. Williams resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated Dec. 24th, 1913).

Major Richard C. M. Pooley is retired, under the conditions of paragraph 116 of the Territorial Force Regulations, and is granted permission to retain his rank and to wear the prescribed uniform (dated Dec. 24th, 1913).

THE MEJIDIEH DECORATION.

A special order of the Egyptian army issued by the Sirdar from headquarters (Khartoum) on Nov. 17th mentions that El Bimbashi C. Cassidy (Captain R.A.M.C.) has been brought to the notice of the Khedive for good service in connexion with recent operations against the Ajaakir tribe. The Khedive subsequently conferred the fourth class Mejidieh decoration on El Bimbashi C. Cassidy in connexion with the operations mentioned.

DONATIONS AND BEQUESTS.—In accordance with the wishes of the late Dr. C. Theodore Williams his widow has sent a cheque for £1000 to the Brompton Hospital for Consumption, to name a ward to his memory.—The late Mrs. Sarah Berry, of Wimbledon, has bequeathed £1000 to the Royal Hospital for Incurables at Putney.—By the will of the late Mr. R. Bayly, of Bideford, the South Devon and East Cornwall Hospital and the Royal Albert Hospital, Devonport, will receive £500 each, and the Leominster Cottage Hospital £100.—The late Mrs. E. S. Millar, of Belfast, has bequeathed £500 to the Royal Victoria Hospital, Belfast, and £200 each to Homes for the Blind, Cliftonville, Society for Providing Nurses for the Sick Poor, Ulster Hospital for Children and Women, Belfast, Hospital for Sick Children, and Forster Green Hospital for Consumption and Chest Diseases.—By will of the late Mr. R. H. Hooker, of Weston-super-Mare, has bequeathed £1000 to the Church Missionary Society for the maintenance of its medical hospital at Srinagar, Kashmir. Subject to one life interest he left £500 to the Weston-super-Mare Hospital, and the ultimate residue of his property, subject to various legacies and annuities, he left to the Church Missionary Society for the maintenance of its medical missions.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from Vol. II., 1913, p. 1798.*)

XXXII.—INSURANCE PROBLEMS IN GERMANY COMPARED WITH THOSE IN ENGLAND.

DURING the past summer I made it my business to look into the working of the German insurance legislation on the spot, which was the easier for me since I was already familiar with the problems. The influence of the German example is known to have been strong upon the framers of the British Acts. Other writers have made valuable comparisons in THE LANCET and elsewhere between the British and German conditions, but these first-hand observations may well be introduced here and now, at the commencement of the second year's consideration of medical practice under our own Insurance Act.

Medical Strikes in Germany.

Though in some respects quite different, there are several points of close resemblance between the practical effects and the difficulties created by the German law for compulsory insurance and those resulting from the British Insurance Act. A few months ago I was able to call at the offices of the Verband der Aerzte Deutschlands at Leipsic. Here I was cordially received by Dr. J. Hartmann, the general secretary of this great medical union, which counts more than 25,000 members. I soon found that many of the situations which had forced the medical practitioners of Germany to form a fighting union, with strike funds, were the same or very similar to those that exist in England. Of this I had already previous knowledge. In 1909 I went to Cologne to describe the great medical strike which was then taking place in that town.[1] Some 80 practitioners had revolted against their conditions of employment by the societies carrying out the insurance law. They claimed that the patients should have the right to the free choice of doctor, and that no practitioner should be allowed more than 2000 insured persons on his list. Earlier than this, viz., in 1904, there was a medical strike for similar reasons. The societies formed by the insured, the sick club or *Cassa* as they are called, had imported as strike breakers 32 or 35 practitioners. But on this occasion the Government took sides with the medical profession, declared that the societies had not a sufficiently numerous medical staff to attend to all the persons insured, and that they must come to an agreement with the local practitioners. The strike of 1904 proved, therefore, quite successful, and an agreement for five years was concluded. It was because the societies would not renew this agreement of 1904 that the second strike broke out in 1909. It did not prove successful, because the *Cassa* was able to secure the services of a sufficient number of medical officers, and therefore each doctor had a reasonable number of insured persons on his list. In England, in all the large centres the same grievance may arise for the local profession. In several cities certainly there are two, three, or more panel doctors who have 3000 to 4000 insured persons on their lists. This is considered a danger by both medical men and the public, and one that may become an abuse; and there is a general feeling that something should be done to prune such superabundant lists. As the German Government had intervened at Cologne when these lists comprised more than 2000 insured persons I recalled these circumstances to Dr. Hartmann, and inquired if the law, or the regulations for applying the law, in Germany established a limit to the number of persons that any one practitioner should accept on his list. His reply was to the point.

The German Government and a Limit to the Panel List.

Dr. Hartmann said there was no law, but that a tacit understanding existed that 2000 names were enough on one list; and that when in 1904 this number was greatly and often exceeded, the Government did interfere, so that many persons then imagined there was some clause in the law establishing a limit. As a rule, the insurance societies or the officials of the *Cassa* recognise the need of a limit; still, if one such organisation did allow a doctor to have a very long list no legal action against anyone could be taken. The notion also that a doctor could have a very long list and make a sub-contract with an assistant to do a portion of the work, and thus establish a sort of sweating system, does not trouble the organised members of the medical profession in Germany. Such cases do exist, but they are few and far between. The Verband, of course, sets its face against them. Such matters are generally regulated by the agreements drawn up between the Verband on behalf of the medical profession and the *Cassa* on behalf of the insured, and both sides are interested in preventing sweating and in not allowing any practitioner to have more patients than he can properly attend upon. Thus it may be said that, though there is no legal enactment, the general feeling, both of the medical profession and of those who administer the insurance funds—i.e., the society or *Cassa*—is distinctly opposed to sub-contracts which may lead to the sweating of medical men, and does not approve the allocation of more than 2000 insured persons to any one practitioner.

These are two very important points bearing on the working of the Insurance Acts in England. At first it was understood with us that panel doctors should not be allowed to send assistants to attend their patients. Then the idea got about that this might be done; but, on the other hand, the patient might object, and in that case the objection would be held as valid. Another interpretation was that if a panel doctor employed an assistant, the assistant, to attend insured patients, must have his name on the panel and have been selected by those patients; consequently they became his patients and not his employer's patients. The whole matter in England is still ill-defined; but the opponents of the sweating system, whether the sweater concerned be himself a medical man or not, will find in Germany an inspiring example. Those also who think that it tends to the degradation of medical science for a panel doctor to have too many insured persons on his list will likewise derive from the German custom and example considerable encouragement. It is no small matter to know that in these questions the powerful Leipziger Verband is on their side. The fact that in 1904 the German Government interfered at Cologne because there were more than 2000 persons on some of the lists

[1] THE LANCET, July 31st, 1909, p. 324.

of the medical men imported by the *Cassa* during the medical strike is only the more valuable when we consider that the law does not impose any such intervention. The feeling that the thing was absolutely wrong must have been very strong for the Government to act independently of any legal sanction, as the German Government did. This is surely a very forcible example to quote when arguing in favour of imposing a limit on the length of the panel doctor's list.

German Legislation Approved by the Medical Profession.

In one important respect the German situation is the exact opposite of our own—the insurance legislation was promoted by medical men. Many years ago Prince Bismarck first proposed, as a measure of anti-Socialist legislation, to introduce a scheme of general and compulsory insurance, and the German doctors were not alarmed by the scheme, nor did they evince any desire whatsoever to organise any sort of resistance. The not inconsiderable number of medical men who were themselves Social-Democrats laughed at Bismarck's idea of "dishing the Socialists"—for this was at the time declared to be his object—but all the members of the profession, whatever their political opinions might be, "thought the insurance scheme was a matter of humanity, and that it would be an honour to assist in carrying out such a law." In saying this I am quoting the words of the general secretary of the Leipziger Verband uttered upon excellent authority.

In such circumstances it will be readily understood that I received a negative answer from Dr. Hartmann when I asked whether in Germany there was any division like that in England and Scotland, as typified by the formation of unions of panel and non-panel practitioners. But if there is no hostility shown in Germany towards what we would call the panel doctors it is recognised that extensive medical practice on the contract system is injurious to the cause of science and lowers the social prestige of the individual medical practitioner. Indeed, in the actual working of the insurance law various grievances have arisen that were not foreseen. Had the consequences of the law been better understood, perhaps more alarm and some attempt at resistance would have resulted.

The Wage Limit Established by German Law.

But in judging the very different attitude of the German medical profession to that of our own it must be borne in mind that from the very first the German Government granted what British medical men pleaded for over and over again and never obtained. The wage limit persistently demanded with us was imposed in Germany, for none came within the scope of the law whose income exceeds 2000 marks, or £100. It may, it is true, be argued that, as the limit proposed in this country was £104, the German limit is proportionately higher. A person earning £100 annually in Germany would be considered more fortunate than anyone earning a good deal more than this sum in England, and also, though to a less degree, in Scotland. Yet, as the cost of the necessities of life is so much higher in Germany, such consideration is a matter of prestige rather than of material advantage. However, the main fact remains that, as a wage limit of £100 a year was imposed, the German practitioner did not fear that compulsory insurance would make him lose many paying patients. Now, however, the position has changed. The scope of the law is to be extended to incomes of 2500 marks, an increase of the insured class which will include a considerable section of the population from which to-day small fees are obtained.

When the German insurance law came into force it proved most advantageous not to the practitioners in industrial districts, but to the rural doctor. This was due to the fact that a generous allowance was made for mileage. As much as 75 pf., or 9*d.* per kilometre, was allowed, and this made a difference of thousands of marks to some country practitioners. But, as a rule, and taking the general run of practitioners, I came to the conclusion that they did not find themselves any better off financially in consequence of the new legislation. On the other hand, they complained of their loss of liberty. The contracts they had to sign compelled them to be always on the spot. Formerly it was more easy for a practitioner to make arrangements to absent himself for a short time, particularly as he was not called upon so frequently to deal with trivial cases. Both in England and Scotland exactly the same complaints are now being made. The system of compulsory insurance deprives the doctor of the liberty which he formerly enjoyed, and compels him to attend to a much larger number of trivial cases. Thus it may happen in Germany that when a medical strike takes place not a few practitioners rather enjoy the change. They lose their regular income while the strike lasts, but strike or no strike, people still continue to fall ill and have to send for a doctor. In those cases the doctor claims and receives the usual fees. His income thus becomes irregular, but his work is irregular, can be done at the time he himself selects, and thus he contrives to enjoy some holidays as long as the strike lasts.

The Triumphs of the Leipziger Verband.

These strikes are not rare occurrences. The Leipziger Verband was founded in the year 1900 by some 500 medical men. Last autumn the membership had risen to 25,120 paying members. Each member subscribes 20 marks or £1 per annum, but the donations made amount to as much again. During the 13 years of its existence the Verband has been engaged in no less than 1147 strikes or conflicts, and it has been victorious on 1034 occasions, being defeated only 14 times. It is doubtful whether there exists in any part of the world a trade union or any similar organisation which can show so triumphant a record. There can be no doubt that in this respect the German medical profession has given the whole world a great example. Perhaps it is their military training that has enabled them to acquire such a wonderful capacity for organisation. But the great asset of the Verband has been a capacity for attention to multifarious, often pettifogging, details. It is comparatively easy to show devotion and make sacrifices when some serious crisis occurs, but the humdrum daily work, the careful bookkeeping that records how small sums are received and spent, and keeps a very reliable account of each individual's liability and claims, is the sort of work that tests the grit, the backbone, the real power of an organisation. It is this farseeing, patient, organising work which has won for the German medical profession so many victories.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LEEDS.

Recent Research in the University of Leeds.

AMONG the more important results already achieved in the research departments of the Unisity are the following. 1. A method of fractional removal of complement and hæmolytic amboceptor from an immune serum by means of fired asbestos. 2. The preparation of proteose-free tuberculin by the simple method of treating Koch's old tuberculin with carded asbestos, or, alternately, by means of growing tubercle on suitable broth media in which is steeped the carded material. 3. By a similar method the reduction in virulence or of toxin-producing power of various pathogenic organisms (including B. pestis, B. anthracis, and B. diphtheriæ) is obtained. 4. The removal of lead, uranium, thorium, and radium from liquids containing their salts in solution is effected by similar means. In the case of the two latter salts, the asbestos fibre used for steeping has been found to be radio-active and to emit emanations corresponding in degree to the amount of salt removed from the liquid. (This latter investigation is being extended, and will be conducted independently in the physics department of the University under Professor W. H. Bragg, F.R.S.) 5. Asbestos fibre steeped in liquids containing active ferments has been found to become sensitised and correspondingly active when removed from the solution; further, in the case of liquor pancreaticus, a differential removal of ferments has been found to take place. —A large number of bacterial and physiological substances, alkaloids and snake-venom, have been found to be affected in the presence of the apparently inert fibrous silicate, and it is possible that the legendary curative "snake-stone" of India may have as its basis some substratum of material fact. The ferments and other physiological substances have as a development of the early work been made the subject of a joint inter-departmental research at the hands of Dr. Myer Coplans and Dr. W. Gibbs Lloyd, while the investigation of the action of asbestos on the components of a simple hæmolytic system has been extended by Dr. Stanley Wyard. The action of proteose-free tuberculin is under an extended trial clinically at the hands of several investigators at Leeds and elsewhere. You have already recorded the election to a Beit Memorial Fellowship of Dr. Coplans, who during the past seven years has been demonstrator in bacteriology and public health under Professor A. S. Grünbaum.

The Medical Department of the University: Change in the Deanship.

Professor A. S. F. Grünbaum, who has acted as dean of the Faculty of Medicine for about seven years, has in consequence of pressure of work felt obliged to resign the position, and he has been succeeded by Professor de Burgh Birch. Those who have worked with Professor Grünbaum will bear testimony to his grasp of details in all matters relating to University business, and to his power of conducting the business of the board of the Faculty of Medicine, of which as dean he has been chairman, *ex officio*. In welcoming the return of Professor Birch to the position of dean—for it must be remembered that he acted in that capacity for five years after the school lost the invaluable services of Mr. Scattergood—those who work at the School of Medicine will remember that they are not welcoming an untried man, but one who has already done the work with satisfaction to all. It was due to his tact and judicious perseverance that the present division of time between the infirmary and the school in respect of the students' work was arrived at. He resumes his work as dean with the cordial approval of everyone.

The Medical Charitable Society for the West Riding of the County of York.

The report of the annual meeting of this association, which was held at Doncaster last September, has just been issued to the members. It shows a continuance of the excellent work that has been carried on for the last 85 years. The financial year which ended on June 30th, 1913, began with a balance of £1015 in hand; the subscriptions of members amounted to £813; donations to £10; and investments and bank interest to £1159. There was, therefore, a sum of about £3000 to be dealt with, of which £1682 were devoted to grants and £1203 carried forward, the balance being absorbed in part by working expenses, but on this occasion by a special expense in connexion with the drawing up of a trust deed. At the meeting which was held in September under the chairmanship of Dr. H. J. Clarke grants were made for the year 1913–14 amounting to £1730. These grants were made to 47 recipients, and very careful consideration was given to each case. It would be impossible to speak too highly of the excellent work which has been done for so many years by this association. Including the grants which have just been mentioned, the association has been the means of distributing no less a sum than £54,806 since it was started, and during the same time it has invested some £30,000. When it is considered that every case is scrutinised with the greatest of care lest any injustice should be done one is struck by two considerations, of which one is the sad thought that there are so many cases in which medical men have been unable to make adequate provision for the wet day which *may* come, and for that day that *must* come, and which may find those who have been dependent on them unprovided for; and the other is that there is a single man in the West Riding who, knowing of the existence of this society, does not at once join it, either on altruistic grounds or on those of mere worldly wisdom.

Dec. 30th, 1913.

SCOTLAND.

Medical Service in the Highlands: Proposed County Association.

AT a recent meeting of the Inverness-shire County Education Committee the chairman, Dr. J. L. Robertson, H.M. chief inspector of schools, directed attention to the paragraph in the circular just issued by the new Highlands and Islands Medical Service Board, which indicated the intention of the Act on which the Medical Service Board is founded—to provide for the development and co-relation of existing public services, so far as it can be effected by combination among the different bodies concerned; and also that indicating that no payment would be made from their fund except as part of a well considered scheme, in which all the existing services could be turned to the best account. Such a statement as that, he said, put in the forefront of the first public pronouncement of

the Medical Service Board was a weighty one, and it seemed advisable that they should consider forthwith how far they could unite with other public bodies in presenting a coherent and well-articulated scheme to the Board. Dr. Robertson went on to say that from a long and intimate knowledge of the county of Inverness he was convinced that public opinion was growing more and more to be in favour of larger areas for several of the big public services of the county. He considered medical service an outstanding case in point. In the present stage of administration the county might be considered the best large unit they could get, and he thought that a scheme of a great advisory medical committee for the whole county, containing representatives of the public health authority, the county national insurance, the school board system, and representatives of the medical practitioners and of the nursing agencies, would be well worth prompt consideration. The decisions of such a body would have weight with the Medical Service Board, in so far as that they would be able from their local knowledge to produce or recommend county, district, or parish schemes that would tend to economy and efficiency in the working. In view of an early meeting of the county council, representatives were appointed from the County Education Committee to ask the county council to draft a scheme under its own auspices, in which case they, if duly represented in the central body, would be glad to coöperate.

Adulteration of Milk in Glasgow.

According to the report from the corporation of Glasgow's chemical department, during the past year there were examined 332 samples of sweet milk, 19 of cream, and 19 of skimmed milk. Of sweet milk 97 samples, of cream 2, and of skimmed milk 2, were adulterated. Of the sweet milk samples 67 per cent. were certified as adulterated solely on account of deficiency in fat, apparently resulting from the artificial reduction of the quality of sweet milk by the admixture of separated milk. The only way to obviate this practice was to get the official sanction of the Board of Agriculture to make compulsory the labelling of separated milk as such. The report also suggested the extension to Scotland of the Public Health (Milk and Cream) Regulations, 1912. The form of adulteration of butter most difficult to detect was the addition of small quantities of animal fat. Of the 247 samples of butter submitted 27 were certified as adulterated from this cause.

Airdrie Sanatorium Question.

At a special meeting of the Airdrie Town Council last week it was decided to provide a local tuberculosis sanatorium for the town itself, rather than to enter into a joint scheme with other Lanarkshire burghs. The Local Government Board will be so notified, though the precise nature of the scheme has yet to be determined.

Territorials and the City Hospital, Aberdeen.

The secretary to the City of Aberdeen Territorial Force Association has sent a letter to the public health committee asking whether, in the event of mobilisation, an arrangement could be made with the council whereby beds in the city hospital could be provided for infectious cases. A reply has been given that the council, without recognising any obligation as to reserving a specified number of beds, is ready to make such arrangements as it can for army cases consistent with meeting the more pressing needs of the city itself, and it is added that there is every likelihood that at least one pavilion, accommodating 40 to 50 patients, could be made available.

Dinner to Dr. Melville Dunlop.

Recently Dr. Melville Dunlop was entertained to a complimentary dinner by his colleagues and old resident physicians in the Caledonian Station Hotel on the occasion of his retirement from the staff of the Royal Edinburgh Hospital for Sick Children, with which he has been connected for 27 years. Mr. Harold J. Stiles presided over a large company, and in making a presentation of some handsome silver plate spoke of the affection and esteem which were universally entertained for Dr. Dunlop and of the valuable services he had rendered both as a teacher and as a physician to the hospital. Dr. Dunlop, in an interesting speech, sketched some of the changes and developments which had occurred during the long period he had been associated with the hospital.

Dec. 29th, 1913.

IRELAND.

Venereal Disease in Dublin.

THE figures given by Sir William Thompson, Registrar-General, before the Royal Commission on Venereal Diseases[1] give rise to some cause for question. Sir William Thompson stated that the death-rates from syphilis and general paralysis of the insane were in Dublin abnormally high, being about twice those of London. It is probable that the incidence of venereal disease in Dublin is high, and this is in great part explained by the presence of an unusually large number of soldiers in proportion to the civil population. The incidence is not, however, so high as might be assumed from a consideration of the death-rate alone. The accuracy of the officially recorded death-rate depends on the accuracy with which the primary cause of death is stated in death certificates. In the case of a death from venereal disease occurring in private practice, it is but rarely that the fact appears on the death certificate, which, as a rule, has to pass through the hands of near relatives of the deceased. The death-rate from venereal disease is, therefore, probably much higher as regards persons attended in private practice than the official returns show. This error does not come in, however, in the case of persons who die in public institutions. In Dublin nearly half the deaths occur in public institutions, a much higher proportion than in any other city in the kingdom The statistics for Dublin as regards venereal disease approach, therefore, more nearly to accuracy than the statistics for London or other large towns.

The National Insurance Act.

The Irish Medical Committee, who have been negotiating with the Irish Insurance Commissioners, have requested the various Local Medical Committees to obtain guidance from the Central Committee on the following questions: In case of appointment of more medical referees, should these be selected by the Irish Insurance Commissioners on the nomination of the various Local Medical Committees, or should the Friendly Societies have the right to choose them as required? Further, should they be part- or whole-time officers?

[1] THE LANCET, Dec. 27th, 1913, p. 1874.

Belfast Union Workhouse.

Mr. F. J. McCarthy, Local Government Board inspector, has just sent to the Belfast guardians a copy of his report consequent on his recent inspection of the workhouse. From it we find the gratifying intelligence that there had been a reduction of 30 per cent. in the number of workhouse inmates during the past five years, the number of inmates on Saturday, Nov. 8th, 1913, in the workhouse (including the sanatorium at Whiteabbey) being 2898, instead of 4139, on Nov. 14th, 1908. As regards the management and cleanliness of the institution the inspector speaks very favourably. "Due order was maintained among all classes, and care was taken that the workhouse rules regarding classification were strictly observed." He found the sanatorium for consumptives at Whiteabbey, "as on previous occasions, a model of neatness, cleanliness, and orderliness." The inspector draws special attention to the reduction of cases treated in the maternity hospital in the workhouse since the coming into operation of the National Insurance Act, 1911. For the year ended Sept. 30th, 1912, the total number of births in the union maternity hospital was 405, while in the following year it dropped to 281. The inspector, in concluding his most complimentary report, bears testimony to the "care and attention which the guardians, through their numerous committees, devoted to the work of administration. Lady members of the board took a deep interest in the work of the committees dealing with the sick and of the children under the guardians' charge. Credit was also due to the officers, and in particular to the clerk and master, for the efficient manner in which they discharged their duties."

Certifying Factory Surgeon.

Mr. W. McLorinan, L.R.C.P. & S. Irel., visiting physician to Mater Infirmorum Hospital, Belfast, has been appointed Certifying Factory Surgeon for North Belfast, in place of Dr. J. E. MacIlwaine, resigned.

PARIS.

The Léon Bourgeois Dispensary.

THE name of M. Léon Bourgeois, to whose efforts much social legislation in France is due, and particularly the antituberculosis laws, has been given to a new dispensary established in the gardens of the Hôpital Laennec. This dispensary has three divisions—one devoted to the hospital care of patients, another to consultation, and a third, the essential element of the institution, to a preventorium. This last consists of rest and fresh air galleries where poor people whose condition does not demand confinement to bed pass the day or part of it in rest and superalimentation, returning at night to their homes, of which the sanitary condition is controlled by frequent visits from the dispensary officials. The plan has met with enthusiastic support from the population, constituting, as it does, a middle course between sanatorium and domiciliary treatment. It affords the necessary rest and alimentation to tuberculous patients still able to work, while permitting them to earn something for the support of their families, for they spend only so much time as is necessary daily in the preventorium. The inauguration of the dispensary was the occasion of an official ceremony at which the President of the Republic, as well as M. Léon Bourgeois, was present. The President seized the opportunity to explain the antituberculosis programme of the Assistance Publique of Paris. This consists of dispensaries for outpatient consultations; the distribution of aid in kind and money, and the inspection of dwellings; the provision of preventorium treatment; the reservation of special quarters for the tuberculous patients in certain of the Paris hospitals, and the establishment of a suburban hospital for the tuberculous, the construction of which is about to be begun in the neighbourhood of Paris.

The General Mortality in France.

According to the recently published report of M. Mirman, Directeur de l'Assistance et de l'Hygiène Publique in the Ministry of the Interior, for the year 1911—a particularly fatal year in nearly all European countries—the total deaths in France were 775,088, equal to a death-rate of 19·59 per 1000, a total increase of 70,318 over the preceding year. The increase was mainly among children under one year and people over 60, the excess in the former group being 30,172, in the latter 26,410. Enteritis was the predominant factor in the first group, carrying off 46,769, or nearly half of the total number (118,300) of deaths in children under one year, an increase of 28,631 over the preceding year. Typhoid fever showed an excess of 1324 deaths in 1911 over the mean of the preceding years, probably due to the excessive heat, which diminished the supply of pure drinking water and also led to the consumption of impure ice. Epidemic diseases showed a general decrease. Influenza, the most fatal, caused 9600 deaths. The total deaths from epidemic diseases were much the same as for deaths from violence and suicide—viz., 29,470, as against 29,163. This indicates that even when hygienic prophylaxis shall have achieved its utmost, much will remain to be done. The epidemic diseases, against which the greatest effort is being made in France to-day, contribute only 4 per cent of the total number of deaths, and this figure is declining with the measures that are being taken against typhoid fever by the provision of an increased supply of drinking water and its protection against contamination, as well as by antityphoid inoculation. Cancer and tuberculosis figures, however, remain disquieting. Cancer in 1911 claimed more victims than all the epidemic diseases put together—viz., 31,768. The condition calls for energetic action. Tuberculosis still claims the highest figure of all, notwithstanding its diminution from year to year. In 1911 it carried off 90,000 victims—that is to say, that between 20 and 40 years 44 per cent. of deaths are due to tuberculosis. An energetic struggle is being waged against the disease, especially in certain large towns and in some of the departments, but initiative is still greatly lacking. The Senate is occupying itself with a Bill introduced by M. Léon Bourgeois, M. A. Ribot, and M. Paul Strauss for the establishment of a central bureau of social hygiene and of an antituberculosis office, the passing of which Bill is urgently required, as well as the law regarding cheap dwellings and for the expropriation of insanitary property. M. Mirman, in closing his report, directs attention to the mortality due to alcoholism, still a great scourge in France, and an active factor in tuberculosis, as well as in deaths due to violence and those of children caused by congenital debility.

The Centenary of Claude Bernard.

The centenary of Claude Bernard, who was born

on July 12th, 1813, was celebrated by a commemorative ceremony at the Collège de France on Dec. 23rd, in the presence of the President of the Republic and a numerous assembly of the scientific world. M. M. Croiset spoke of the lustre that Claude Bernard, who was professor of physiology there, had reflected upon the college. Professor Bergson told of the influence that the books of Claude Bernard and his conception of life had had upon the spirit of his age. Professor Dastre described the works and the numerous discoveries of Bernard, particularly those relating to the physiology of digestion, and Professor d'Arsonval spoke in the name of the former pupils of the master. The Minister of Public Instruction, in a striking address, described France's debt to the *savant* who began his illustrious career as the humble assistant in a pharmacy at Lyons, came to Paris with a view to getting a tragedy put upon the stage there, and entered the laboratory of Magendie at the Collège de France, finally succeeding him in the chair in 1855. He died at Paris on Feb. 10th, 1878.

Dec. 29th, 1913.

BERLIN.

The Battle of the Clubs.

THE possibility that a sick club may be unable to obtain medical attendance for its members at the usual club rates has not been overlooked in the new Workmen's Insurance Act. It does not appear that the patients need suffer any detriment, for an alternative is indicated in a portion of the Act which provides that in such circumstances the members may receive sick pay in excess of the ordinary allowance for the purpose of enabling them to consult practitioners unconnected with the club. Before making these increased payments, however, the club must obtain permission from the district insurance office, which has also to decide how a patient's inability to follow his employment may be certified when an arrangement for that purpose cannot be made with a medical man. The federal council has recently issued instructions to the district insurance offices informing them under what conditions they may allow the committees of the sick clubs to pay the higher sick rate instead of procuring free medical attendance. It is stated in the instructions that the above provision may only come into force when the local medical men have declined to accept the arrangements proposed by the clubs. When no medical man is willing to give a certificate of illness to the club members, such certificates may be given by non-medical managers of the club, employers, midwives, nurses, or other trustworthy persons. In reference to this the *Medical Reform* rightly observes. What is the use of medical men devoting five years to professional study and passing several examinations when mayors, employers, and "other trustworthy persons" not possessing any medical knowledge may give certificates as to the condition of patients?

Eighteen Laparotomies on one Subject.

Dr. Harzbecker lately showed before the Berlin Surgical Society the case of a patient, 44 years of age, who in 1887 sustained a contusion of the abdomen in consequence of a fall from a horse. The sequelæ of the injury were frequent attacks of ileus, and as many as 18 laparotomies had been performed—the last one five years ago—without a definite cause for the ileus being found. In 1903 colostomy was performed, and finally an anastomosis between the cæcum and the sigmoid flexure was made. Recently he was treated only by electric light baths, enemata, physostigmine, and morphine. Dr. Harzbecker said that the symptoms were obviously due to chronic enterospasmus from a nervous cause, and that it was doubtful whether this condition was the result of the accident or not. The patient had been taking alcohol and morphine in excess since the accident.

Agitation respecting Degrees in Dentistry.

The dental students of the University of Leipsic have decided to engage in a so-called "strike," the reason being that their request for the creation of a degree of Doctor of Dental Surgery has been refused. They have telegraphed to the dental students of other universities to follow their example, and those of the University of Berlin have held a meeting of sympathy, at which it was decided to send delegates to Leipsic for the purpose of taking joint action. To understand the motives of the dental students it must be stated that a dental degree does not exist in Germany, although there is a State examination by which the title of "Zahnarzt" is conferred. Dentists wishing to have a university degree could not be examined by the medical faculties by which the title of M.D. is granted. This degree is obtained only after a regular study of medicine, but not of dental surgery, so the dental students have had to apply to the philosophical faculties where the title of Doctor Philosophiæ might be granted to them after an examination not including any reference whatever to dentistry. This undesirable state of things has led to repeated petitions being presented to the medical faculties and the Government to create the title of doctor of dental medicine or surgery, but these endeavours have hitherto proved unavailing, and the students hope to get by the "strike" what has been refused to less heroic measures. The "strike" has meanwhile extended to nearly all the German universities.

Dec. 24th, 1913.

ITALY.

Monument to Florence Nightingale in Florence.

FLORENCE, the city of the great Englishwoman's birth, has paid a rare tribute to the memory of Florence Nightingale. The British Ambassador, Sir Rennell Rodd, has unveiled in the cloister of Santa Croce, the church which represents to Italians what Westminster Abbey does to Englishmen, a monument to her memory. This is the work of an English sculptor, Mr. F. W. Sargant, brother of the learned judge and of the lady president of the Botanical Section of the British Association, and is a three-quarter life-size symbolical figure representing the "Lady with the Lamp," the name by which the heroine of the Crimea was known to the soldiers in the hospitals. The statue is a beautiful piece of work in the classical style, and has won unstinted praise. The idea of having a permanent record of Miss Nightingale in Florence originated with the British Consul-General in Tuscany at the time of her death. Money was raised by a public subscription, in which citizens of many nationalities joined, while the Deputazione dell' Opera di Santa Croce readily agreed to the suggestion that they should find a site for the monument. The military authorities and those of the province and city, with the Consular representatives, attended the unveiling ceremony, at which a large gathering of the foreign colony and of Italian society assisted. The Croce Rossa was largely represented

by officials and lady members, and furnished a guard of honour of its *militi*. Two beautiful wreaths of flowers were presented by the ladies of the Croce Rossa, and placed one on each side of the statue. English nursing was well represented, among others by the Mothers Superior of the Little Company of Mary, the English order of nursing sisters, better known as the Blue Nuns. The British Ambassador, after unveiling the statue, pronounced an eloquent eulogy upon the work and character of Florence Nightingale, emphasising the long and careful training which were the prelude to her life's work. After thanking the authorities who had granted her a place in the precincts of their great shrine, he signed the *atto notarile*, handing the monument over to the care of the Opera di Santa Croce. The epitaph, the work of Senator Professor Isadoro del Lungo, must be given as a model for such work: "Florence Nightingale, MDCCCXX., L'eroina di Crimea, MDCCCCX., La Signora della Lampada, come la chiamarono i soldati che la ebbero infermiera mirabile nelle notti di spedale angosciose e fin d'allora animatrice colla virtù dell' esempio a quell' opera voluntaria di pietà internazionale che poi fu la Croce Rossa. Ha nella sua Firenze dove nacque e ne portò il nome gentile questo ricordo di venerazione e di affetto"—an inscription which sums up in a comparatively few lines the purpose of the monument and the history of its prototype. The statue in the cloister of Santa Croce will remain as a record of the international significance of her life. The ceremony of its unveiling forged another link in the friendship of England and Italy.

Higher Education in Italy.

The number of students of the universities has been gradually decreasing of recent years. From 21,492 in 1908 the number fell to 21,019 in 1909, 20,425 in 1910, and 19,772 in 1911, the last year for which statistics are available. The diminution has been greatest at Naples, Turin, Pavia, and Pisa, while there has been a slight increase at Bologna, Genoa, and Palermo. Naples continues to be the largest university with 4281 students, and Rome comes next with 2895. Turin holds the third place with 1800 students, but is likely to yield it soon to Bologna, which has already 1762. Next comes Palermo with 1511. At the end come Siena with 257, Cagliari with 227, Sassari with 262, and Messina with 87. At Messina, however, some of the faculties have been closed. There is an increase in the number of women students, of whom Turin has 167, Rome 155, Naples 105, Palermo 77, and Pavia 76.

Dec. 27th, 1913.

UNITED STATES OF AMERICA.

The New York Health Department.

Dr. Lederle, head of the health department of New York City, issued on Dec. 7th last a review of the work of that department during the past four years. In this period there has been, it appears from the report, a steady decline in the death-rate of the city. The death-rate for every 1000 of the population for the four years from 1909 was: 1909, 16; 1910, 15·98; 1911, 15·13; 1912, 14·11; and for the 48 weeks of 1913, 13·77. In 1912 the death-rate of Chicago was 14·68; Paris, 16·38; Berlin, 14·39; and London, 14·3. The reduction of infant mortality in New York during the four years has been remarkable, the rate of infant mortality having gone down from 137 in every 1000 in 1900 to 110 in 1912. The reduction in this direction is believed by Dr. Lederle to have been greater than that in any of the ten largest cities of the world, who attributes it largely to improvements of milk-supply. Among other matters mentioned in the report are the progress made in the enforcement of child hygiene and the extension of medical inspection in the schools. In 1912 six clinics for school children were established, free treatment being supplied to those who needed it. This year six dental clinics have been established. An interesting *résumé* of the departmental methods in combating infectious and contagious diseases and in improving those of food inspection is followed by a note on the value of vital statistics, and the necessity of prosecuting practitioners and midwives for failure to notify births. The report affords striking evidence of the energy displayed by the health department of New York during Dr. Lederle's directorship.

A Visit of English Surgeons.

A special clinic was arranged recently by Dr. William Seaman Bainbridge, professor of surgery at the New York Polyclinic Hospital and Medical School, when Sir W. Arbuthnot Lane, Mr. Herbert Paterson, and Dr. Bainbridge himself operated. Sir Arbuthnot Lane performed three operations. One was on an infant ten days old for the cure of cleft palate and hare lip; one was a short-circuiting operation on a patient suffering from intestinal stasis; and the third was a "plating" for fracture. Mr. Paterson did an exploratory laparotomy and Dr. Bainbridge a short-circuiting operation for intestinal stasis. In addition several persons who had been operated upon or treated by Sir Arbuthnot Lane and Dr. Bainbridge for intestinal stasis of varying degrees of severity were shown. Some of these had been operated on as long as five years ago, but all were in excellent health. The theatre in which the clinic was held was filled to overflowing, there being present surgeons from all parts of the United States. Among these may be mentioned Dr. John Wyeth, ex-President of the American Medical Association, ex-President of the New York Academy of Medicine, founder of the New York Polyclinic School of Medicine, and originator of post-graduate medical teaching in the United States.

In the evening a dinner was given to the English visitors at the St. Regie Hotel by Dr. Bainbridge. The guests, who numbered 120, and included representative members of the medical profession from all parts of the United States, heard Sir Arbuthnot Lane describe in detail the origin of his views and technique in dealing with intestinal stasis by operation. After Sir Arbuthnot Lane's address, pictures illustrating various stages of intestinal stasis were thrown on a screen, some of which were made from the X ray work of Dr. Alfred Jordan and some by a lady artist, procured for the purpose by Dr. Bainbridge, who knew nothing whatever of anatomy, and whose drawings, therefore, could only represent exactly what she saw, and not what she might think she ought to see. Great interest was shown by medical circles on the occasion, for, well known as Sir Arbuthnot Lane is on this side of the Atlantic, it was, I believe, the first occasion on which he has publicly expounded his views in detail.

Dec. 20th, 1913.

SOUTH AFRICA.

Cape Medical Council.

As a consequence of the recent discussions at the Dental Society of the Cape Province, the Cape Medical Council has adopted a resolution objecting to the professional association of any registered medical or dental practitioner with any commercial firm, company, or association under any form of contract which constitutes such body an agency or intermediary deriving pecuniary advantage in connexion with the rendering of professional services to the public. The Council considers any medical practitioner or dentist associating himself in his professional capacity with any person, firm, company, association, or society which advertises or canvasses either personally or by means of agents for the purpose of procuring patients or customers, guilty of improper or unprofessional conduct. But these resolutions are not to apply to arrangements made by commercial bodies in respect of their own *bond-fide* employees, by shipping companies in respect of their passengers, or by hospitals or similar medical or dental institutions in respect of their patients. The committee of the Council recently appointed to consider the question of the certification of native and coloured nurses reported against the present advisability, in view of the requirements of the country, of instituting a lower grade nursing certificate for native and coloured persons. In a minority report Dr. A. J. Gregory differed entirely from the report of the majority. He was of the opinion that it was incumbent on the Council to make provision for the institution of a certificate for native and coloured nurses, obtainable after undergoing a suitable training and examination. After some discussion the matter was postponed until the next meeting of the Council, but it would seem clear that the Council is hostile to the view which is widely held in the country districts that there is need for a lower grade of trained nurse recruited from coloured or native people.

Railway Sick Fund Dispute.

Recently a deputation from the Natal Coastal Branch of the British Medical Association interviewed the Hon. H. Burton, K.C., the Minister of Railways, and Mr. W. W. Hoy, the general manager, on the subject of the rates of remuneration offered to railway medical officers by the South African Railway Sick Fund. The deputation pointed out that all the Friendly Societies in Natal paid their medical officers 12s. per head per annum. The members of these societies were working men, who had to find this money out of their own earnings. The sick fund, which was heavily subsidised by the Department out of public funds, was offering medical men little more than half of this amount. It was forcibly represented to the Minister that the Government was actually attempting to cut down medical earnings and asking the profession to work for less than the ordinary working man was already paying. The deputation also pointed out that their resistance was not entirely due to financial reasons, but that it was certain that if less money was paid for medical work, less time would be given to the work and the standard of medical service would be lowered. Mr. Burton stated in reply that in Natal medical services had in the past been remunerated at higher rates than in the other colonies. He pointed out that under Union the sick fund that had been in existence in the other provinces was being extended to Natal, and he stated bluntly that in his opinion the same rates of remuneration should be paid in Natal as had hitherto been paid elsewhere. He admitted that it was unfortunate for Natal that in this case it meant a levelling down of the rates to the standard of the Cape and other provinces, but he did not feel after fully considering all the circumstances that it could be avoided. At any rate, he was not prepared to interfere with the decision come to by the department. The deputation intimated to Mr. Burton that under these circumstances the posts advertised would be boycotted by the branch. So far the advances made by the Government towards a settlement of the dispute have not achieved much result, and resistance to the sick fund continues. Up to the present only one medical man in Durban has accepted the terms offered, the rest of the profession standing solidly together and presenting a united front for better terms.

Mental Asylum, Bloemfontein.

The Mental Asylum at Bloemfontein is about to be considerably enlarged as the result of the decision come to by Parliament last session. The additions will form part of a comprehensive scheme for providing additional accommodation for lunatics throughout the Union. The additions in question will be erected on the villa system, each villa to contain 40 to 50 patients. This system is unquestionably better suited to South African conditions than any other, though perhaps it is relatively somewhat costly to administer. When the additions are completed it is understood that the asylum will be provided with accommodation for some 2000 patients.

Criminal Investigation and Professional Secrecy.

A most unusual circular was recently distributed by the Criminal Investigation Department amongst Western Province practitioners. It stated that in a recent burglary a native, in endeavouring to open a safe, had part of a finger or thumb taken away, and requested any medical practitioner consulted by any native suffering from such an injury to telephone at once to the department. The circular has aroused a good deal of resentment amongst practitioners in the area on the ground that it asks them to commit a gross breach of professional etiquette.

Dec. 14th, 1913.

INDIA.

The Water-supply of the New Capital.

THE provision of an ample water-supply at Delhi is of the highest importance, as with the increase in population, owing to the sojourn of the Government of India there during the winter and the preliminary operations connected with the new capital, the demand for water has largely increased. The municipality has, therefore, taken measures to improve and enlarge the existing supply. The purity of the water is beyond dispute, and altogether Delhi need have no anxiety about the quantity and quality of the water supplied to it under present conditions.

Stifling Railway Carriages in India.

Engineers in cold countries who have so successfully dealt with the heating of passenger trains can have but a small idea of the difficulty of cooling them in the tropics when the temperature is 165°F. or more in the sun and 115° in the shade. This is a difficult problem in India, as railway carriages may stand or travel empty in a blazing

sun for hours completely shut up until they are literally soaked with heat. The traveller entering one of the vehicles in the summer has very often to choose between sitting in a storm of dust and smoke that enters by the open windows or stewing in a modified oven whose upholstery interferes with his chances of cooling even if he changes into a sleeping suit, which he can only do if travelling alone. Few people in Europe, even those who have travelled in the East, have any idea of the ingenuity that has already been expended on devices for reducing the temperature of the air in trains. Only a very small number of these methods have even been tried on any railway, as railway officers are alive to the fact that every addition of mechanism to a railway vehicle involves additional repair, and therefore additional expense.

The Milk-supply of Bombay.

The Bombay corporation is now discussing new by-laws which it will ultimately lay before the Government with the object of better regulating the stabling of milch cattle. This will do something to improve the Bombay milk-supply, but there is force in the argument that milch cattle should not be allowed on the island at all. There is plenty of suitable land in Salsette in proximity to the railway, and there would be no difficulty in bringing the supply in. The whole question ought to be scientifically approached, and it would probably pay a limited company with adequate capital to take up the enterprise. The corporation should recognise the fact that so long as it allows stables on the island there is little likelihood of anyone collecting cattle at a distance from Bombay. What the public must understand is that by-laws alone will not make a good supply. The trade itself should be directed with intelligence, knowledge, and skill.

The Cocaine Traffic in India.

The Bengal Excise Department recently threw into the Hooghly cocaine worth Rs.114,000 (over £7000 sterling), which formed part of various seizures on board ship and in the town of Calcutta. A better use might conceivably have been made of this confiscated cocaine.

An Overworked Hospital.

In a memorial on the subject of the Eye Hospital in Calcutta addressed to the Chief Secretary of the Government of Bengal, the Council of the European Defence Association declares that the institution in its existing state constitutes a grave scandal. This is not the fault of the hospital staff, who are making the best of exceedingly adverse conditions, and to whose efforts the council pays a deserved tribute. But the building, which may have been adequate for the purposes when it was erected, falls far short of the demands made upon it at the present day. The accommodation is utterly inefficient. The number of out-patients who present themselves for treatment averages 140 daily. In a large proportion of cases they can only be properly treated as in-patients, but there is no room for them. Many of these people travel long distances. Some have been known to walk over 100 miles to the hospital, and it is painful to learn that such pilgrimages were sometimes futile, and that sufferers whose sight could have been saved have become blind because of the impossibility of admitting them for treatment in the overcrowded wards. The absolute lack of accommodation for septic cases also is a serious drawback to good work.

Medical Instruction in Madras.

With the large programme of medical service for women now on the *tapis*, in which Sir Pardey Lukis is evincing particular interest, it is clear that men and women trained as medical practitioners must be provided in increasing numbers to meet the requirements of the Indian population. Even now the supply is inadequate to the demand, and this is particularly the case in Madras. The Madras Medical College has a deservedly high reputation for turning out efficient medical subordinates, but unfortunately it is the only medical institution in the presidency where instruction and training are given. In the last annual report of the Medical College the Government, on the recommendation of the Surgeon-General, has decided to admit for instruction only 80 students annually, so that any applicants in excess of that number must in future be refused. If there were any other institution to which this surplus of candidates could turn for instruction this would not much matter, but as it is, not only are useful careers balked, but the country loses services which it sadly needs.

Dec. 15th, 1913.

AUSTRALIA.

Small-pox in Sydney.

THE small-pox epidemic shows signs of self-exhaustion at last, and during the past five days only one case has been discovered. There are still some 150 persons in quarantine. Early in November a conference of health officials was held in Sydney to discuss the removal of the quarantine embargo placed on that city and its suburbs by the Federal authorities. The chief health officers of all the States were present, together with Dr. J. H. L. Cumpston, the Federal director of quarantine. An atmosphere of secrecy marked the proceedings. The press was not admitted, nor was any official statement issued. The conference unanimously agreed, it is understood, that on certain undertakings by the public health department of New South Wales the quarantine might be lifted, and future procedure in like cases was arranged. Communications have passed between various Governments, and the quarantine is to be lifted on Nov. 26th, although certain minor safeguards will be insisted upon. The remarkable feature of this epidemic has been the occurrence of over 1000 cases without any death directly attributable to the disease.

Contract Practice in New South Wales.

Some time ago the New South Wales Branch of the British Medical Association drew up a model agreement for contract practice, which was declined by the Friendly Societies. A conference between representatives of the medical profession and the societies was subsequently held, and a compromise was attempted. The Friendly Societies' representatives have proved unable to get their concessions ratified, and the situation now shows signs of becoming difficult. The practitioners engaged in contract practice have given in their resignations of all contract appointments, and the Branch Council of the British Medical Association has notified the Friendly Societies, for its members, that unless an agreement is arrived at the resignations will take effect from the end of the present year. Some of the societies are now for fighting the medical profession. Another party are for renewed parleying, with the object of further investigation of differences. Finally, a few "lodge combinations" have frankly accepted the terms asked by the profession.

Tropical Conditions in Australia.

The Stewart lectures in Melbourne University were delivered this year by Dr. Anton Breinl, director of the Institute for Tropical Disease at Townsville. Dr. Breinl dealt with communicable tropical affections in general, and specially those which might conceivably be introduced from the East. In his final lecture he mentioned the possibility of a white population being settled in Northern Australia, and while declining to express any definite opinion, owing to lack of data, he pointed out that tropical Australia differed from all other tropical countries in possessing remarkable diversity of climate and offered the best chances for a large white community in tropical regions.

Venereal Prophylaxis in Queensland.

The Queensland Government has adopted a measure providing for compulsory examination of female prostitutes at fortnightly intervals. It differs from the old Contagious Diseases Act operative in Brisbane some years ago in that the authority is removed from the police to the Health Department. Venereal disease is to be notifiable, and "homes" for treatment are to be established. The proclamation affects Brisbane and suburbs, and evasion of its provisions entails a penalty of £20.

Health of Tasmania.

The chief health officer (Dr. S. A. McClintock), in his report for the year ending June 30th, 1913, says: "The general health of Tasmania during the period under review has been good and not marked by any serious epidemics entailing unusual mortality." An epidemic occurred among the scanty population of several islands in Bass Straits who live under poor conditions and are of hybrid descent. Several deaths occurred, the diagnosis being made of "atypical measles with symptoms of scarlet fever." He refers to the contemporaneous and similar anomalous outbreaks in England at Winchester, Hastings, Birmingham, Cheltenham, and Portsmouth. There had been notifications of scarlet fever from the North-West Coast.

Health of West Australia.

The annual report of the chief health officer of the State of West Australia (Dr. J. W. Hope) for 1912 states the population to be 301,362, of whom 172,344 were males; birth-rate per 1000 28·56; death-rate 11·07; infantile mortality figure 82·08. Under the Midwives Act 894 women were registered, of whom 134 held diplomas. During the year 8698 births were registered and 120 vaccinations, and Dr. Hope emphasises the danger of these figures in respect to vaccination.

The late Dr. F. J. Clendinnen.

The news of the death of Dr. F. J. Clendinnen, announced by cable from London, was received here with very general regret. Dr. Clendinnen studied at Melbourne University, completing his medical course at Edinburgh, as L.R.C.P. & S. Edin., 1884. He became L.R.C.P. Lond. and M.D. Brussels in 1885. Returning to Australia, he settled in Melbourne, where he was a popular practitioner for over 20 years. He had a strong scientific bent, and took up X ray work early, and became skiagraphist to the Melbourne Hospital, suffering the too common fate of X ray dermatitis. He was President of the Radiology Section at the last Australian Medical Congress, and Vice-President of the same section at the International Medical Congress.

Obituary.

SIR JAMES JOHN TREVOR LAWRENCE, BART., K.C.V.O., M.R.C.S. ENG.

Sir Trevor Lawrence, whose death at the close of his eighty-second year took place on Dec. 22nd, was the son of Sir William Lawrence, the eminent surgeon, who was twice President of the Royal College of Surgeons of England, in 1846 and in 1855. From Winchester Trevor Lawrence proceeded to his father's hospital, St. Bartholomew's, and qualified M.R.C.S. in 1853, and for the next ten years he served in the Indian Medical Service, covering a period of the Mutiny. His retirement from this service in 1863 marked the close of his active professional life. His father had been made a baronet, and he succeeded to the title four years later, from which time he began to take a practical part in politics, representing the Mid-Surrey and Reigate Parliamentary divisions from 1875 to 1892. In this year he retired from Parliament and renewed his associations with St. Bartholomew's Hospital, becoming treasurer in succession to Sir Sydney Waterlow. During his 12 years as the responsible head of this great and ancient foundation Sir Trevor Lawrence devoted himself steadily and unostentatiously to the interests of the hospital, and it was no fault of his that his treasurership proved to be one of the most anxious and difficult periods in the history of St. Bartholomew's. Before he retired in 1904 the great work of building the new out-patient and casualty department had been taken in hand; the first appeal which St. Bartholomew's had made to the charitable public for 150 years had yielded, in the teeth of organised opposition, nearly £100,000, and the foundation-stone of the new block had been laid by King Edward VII. Sir Trevor Lawrence was also prominently associated with the King Edward's Hospital Fund, of whose Council he was from its beginning a member and for some time vice-chairman of the Distribution Committee.

His devotion to horticulture, and more especially to orchid growing, was remarkable. For nearly 30 years he was President of the Royal Horticultural Society, and during this time laboured with great success for the good of the society and of horticulture generally. At his house at Burford, near Dorking, he achieved great success in orchid culture. He was created K.C.V.O. in 1902, and was a Knight of Grace of the Order of St. John of Jerusalem. His attractive and unassuming personality will long be remembered by many friends in the medical profession.

DAVID MACLURE COWAN, M.D., CH.B. GLASG., F.R.C.S. EDIN.,

SURGEON TO THE AYR COUNTY HOSPITAL.

Dr. David Maclure Cowan, of Maybole, Ayrshire, whose death occurred on Dec. 6th at the County Hospital, Ayr, was the son of Mr. David Cowan, of Maybole, where he was born about 37 years ago. He received his early education at Carrick Academy, proceeding to Glasgow University at the age of 17. At the University he gained a certificate for distinction in medicine, and took the class gold medal, as well as the Gairdner and Cullen gold medals. Besides honour certificates in anatomy, physiology, bacteriology, pharmacy, and clinical medicine, he was also

awarded the Brunton Memorial gold medal for the most distinguished student of the year. He took the M.B., Ch.B. degrees with commendation in 1899. He officiated as house surgeon at the Glasgow Western Infirmary, at the Glasgow Maternity Hospital, and at the Glasgow Royal Infirmary, and then, after serving as medical officer at the Middle Ward Hospital, Motherwell, where he had considerable practice in operative surgery, he settled in practice in his native town in 1904. In 1906 he took his M.D. degree with honours, gaining the Bellahouston gold medal for his thesis. He was appointed surgeon to the Ayr County Hospital. In 1908 he took the Fellowship of the Royal College of Surgeons of Edinburgh. At this time occurred an episode proving his professional devotion to duty which is well worth recording. Obeying an urgent summons to a herdsman's wife, Dr. Cowan motored in a heavy rainstorm as far as the car could travel, and then walked across the hills in the wildest part of the moor, a matter of some five miles to the herdsman's cottage, when he found his patient the subject of an appendicular abscess. He had the woman dressed, and rigging up a chair on two poles, so that she might be conveyed in an upright posture, he placed her in it, and with her husband carried her to his motor, having to ford a rain-swollen stream up to his waist. Taking her straight into the Ayr County Hospital he operated successfully, and the woman made a good recovery.

With such ability, reinforced by so deep a sense of devotion to duty, it is little to be wondered at that general regret has followed his untimely death, and that keen sympathy is felt for his widow and his two little children.

JOSEPH RUTTER, M.D. LOND., M.R.C.P. LOND.,

CONSULTING PHYSICIAN TO THE SUSSEX COUNTY HOSPITAL.

THE death occurred at his residence at Hove on Dec. 16th last of Dr. Joseph Rutter at the age of 79. He had retired from active practice since the year 1899, and had lately been in failing health. He took the M.B. degree at the University of London in 1860, and qualified also as M.R.C.S. Eng. and L.S.A. Lond., proceeding to the M.D. degree in 1862. Three years later he settled at Brighton, where he quickly gained an extensive practice, while his abilities are believed to have prompted Sir James Clark to offer him at an early stage of his career an appointment at Court. In 1868, having become a Member of the Royal College of Physicians of London, he joined the staff of the Sussex County Hospital as assistant physician, being also attached to the Brighton and Hove General Dispensary. He became the senior physician to the hospital, and on retiring from that office in 1896 was appointed consulting physician.

Dr. Rutter was particularly interested in the work in aid of the blind, and played a very prominent part in the foundation three years ago of the Moon Pension Fund for the necessitous blind of Sussex, in connexion with the well-known institution for the blind in Queen's-road, Brighton.

Dr. Rutter's death has been felt as a loss by a very large circle of friends and former patients.

JOHN HENRY NEWMAN, M.D., M.CH. R.U.I.,

COLONEL I.M.S. (RETIRED), BENGAL.

Colonel John Henry Newman, who recently died at his residence, Coolatta, Killinardrish, co. Cork, was a distinguished officer of the Indian Medical Service.

He studied medicine in the Queen's College, Cork, and took the degree of M.D., M.Ch. of the Royal (then the Queen's) University, Ireland, in 1865. In 1867 he entered the Indian Medical Service, and took part in the Abyssinian campaign of 1868. Later on, in 1878, he served through the Afghan war, and received the medals for both these campaigns. The greater part of his service was passed in Rajputana. He was civil surgeon of Ajmere from 1879 to 1892, though he occasionally filled temporary posts in higher offices elsewhere. In 1895 he became principal medical officer, and in this year was appointed Inspector-General of Hospitals in Bengal and Administrative Medical Officer and Sanitary Commissioner for the Central Provinces. Before his retirement from the service in 1900 he held the corresponding position in the Punjab.

Colonel Newman attained a wide reputation in his profession, and was beloved by his patients, who had absolute confidence in him. Possessed of many accomplishments, and being a keen all-round sportsman and a reliable friend in difficulty or emergency, "Jack" Newman, as he was known to his intimates, was popular wherever he went.

Correspondence.

"Audi alteram partem."

THE HISTORY OF MEDICINE.

To the Editor of THE LANCET.

SIR,—Several learned foreigners who came to the late International Congress of Medicine expressed themselves as pleasantly surprised at the great interest taken in England in the history of medicine. The establishment of a section of the Congress devoted to this subject has made the year a memorable one for all who believe the study important in relation to the teaching of medicine and to the intellectual position of the medical profession.

Several Englishmen, like Freind, Aiken, Munk, and Payne, have made great contributions to medical history in various directions since the reign of George I., and there are many smaller pieces of admirable work, such as those accomplished by Dr. MacMichael, Sir George Paget, Sir James Paget, Dr. J. W. Ogle, Sir Edward Sieveking, and several of the Harveian orators, but it has too often been assumed that only a few were interested in these writings, and that they did little more than to produce alternate excitement and satisfaction of antiquarian curiosity. The establishment of a lectureship on the History of Medicine in the Royal College of Physicians of London in 1901 was the first formal recognition of the subject by a learned body. The attention thus given to the subject by the College was followed by the admirable lectures of Dr. Payne on Anglo-Saxon and on Anglo-Norman Medicine, of Sir T. Clifford Allbutt on Greek Medicine in Rome, of Dr. Guthrie on the Subsequent Career of Infant Prodigies, and of Dr. Crawfurd on Touching for the Evil and on Epidemics of Plague; and the interest in part excited by these lectures prepared the way for the establishment of a section of the History of Medicine in the Royal Society of Medicine. This section, with Sir William Osler as President, Dr. Crawfurd and Mr. D'Arcy Power as secretaries, has led to the production of a remarkable series of interesting papers.

The foundation by Mr. Wellcome of a museum illustrating every part of the history of medicine is another event of the past year which is likely to have influence on this branch of medical study. Those who visit the museum will often be encouraged to add to it or to make additions to knowledge from that which they have there acquired.

It is just ten years since the first lectures on the history of medicine were delivered at the Royal College of Physicians of London, and the College may justly feel satisfaction in the consideration that its efforts have been crowned by an international approval of the encouragement of the study by the formation of a section in the Congress.

A knowledge of the history of medicine acquired from the writers of each period and from other original sources of history will be of constant use in teaching medicine at the bedside. The errors of the past often show how to avoid error in our own day. The way in which truth was slowly attained in the past often suggests ways of attaining truth in the case under observation. A well-known case from history often helps to impress on the student's mind the facts of a similar case actually before him. These are a few of the uses of history at the bedside.

By a knowledge of the history of his profession and of its work every man gains in dignity, for he comes to live in contact with the men who have added to knowledge in the past as well as with those who increase it in his own time. He is a greater man because he knows so clearly what he owes to Harvey, what to Laennec, and what to Lister, that they become the daily companions of his thoughts. It may be hoped that the study of the history of medicine, which has made so important an advance in 1913, will continue to flourish in this country.

This letter ought not to end without mentioning how great a loss the study has suffered in the death of Dr. Milne—

Dead ere his prime,

His deep learning was displayed at the Congress in his admirable paper on Galen's "Knowledge of Muscular Anatomy."

THE LANCET has, I think, in the past given much encouragement to historical subjects which must be my excuse for writing at such length.

I am, Sir, yours faithfully,

Dec. 29th, 1913. NORMAN MOORE.

A PROPOSED PRIVATE HOSPITAL.

To the Editor of THE LANCET.

SIR,—Little doubt can exist that the accommodation offered to sick people, other than those of the poorer classes, by the existing nursing homes is very bad—that it is very much inferior to that offered in the large public hospitals. This state of things can easily be traced to the failure of an attempt to carry on private hospitals in houses primarily designed for domestic uses, and all the present well-known defects can be traced to that cause. The obvious remedy, therefore, is to build a large central private hospital for paying patients—to establish, in fact, a hotel for sick people in place of the existing lodging-houses. I am writing with particular reference to the needs of London, but have no reason to suppose that those needs are not just as pressing in all large cities.

I am convinced that such an institution must have at least 150 to 200 beds (there are at present over 1000 in the West-end—of course, scattered through medical and surgical homes), that it must be centrally situated in order to be a convenience to both the public and the surgeon, that it must be capable, as to price, of housing all a medical man's cases who can afford fees, and, as far as its accommodation goes, must begin where the modern hotel has left off, not where the hospital has stopped. A person used to the conveniences of a modern hotel does not want less comforts when ill. The matter is one out of which nobody desires to make large profits, and the finance should be arranged so that excess earnings over a certain percentage should go to relieve the fees due from necessitous cases on the less expensive side.

At the moment there are a lot of factors present which should make the effort to establish such an institution successful. I have been working at the subject for some years, but it is one that requires the coöperation of all people interested, as divided or isolated efforts are only likely to lead to failure. Therefore, I shall be pleased to add my endeavour to that of others, and give all the details I have collected to anyone who is disposed to help along the project.

I am, Sir, yours faithfully,

ANTHONY B. BRADFORD, M.D. Durh.

Henrietta-street, Cavendish-square, W., Dec. 22nd, 1913.

BIG GAME AND SLEEPING SICKNESS VERSUS MAN AND HIS ANIMALS.

To the Editor of THE LANCET.

SIR,—In letters on the above subject published in your columns Mr. Sheffield Neave and Dr. G. D. H. Carpenter query the statement of Professor J. L. Todd in his letter to THE LANCET of Nov. 22nd that "The situation is clear; big game, especially antelopes, are the reservoirs of, and Glossina morsitans is the carrier of, trypanosomes which cause fatal disease in man and animals." Both quote Taute's experiments as evidence against the interpretation which Dr. Kinghorn and I have placed upon our experimental findings in Africa—that a large proportion of the wild game harbour trypanosomes pathogenic to man and his animals. May I point out that the single experiment performed by Dr. Taute upon himself proves nothing beyond the fact that it is possible for a healthy human being to resist infection. There is certainly no justification for assuming from a solitary experiment of this kind that the trypanosome found by Kinghorn and myself in game and wild Glossina morsitans is other than the, at present, absolutely indistinguishable parasite known to infect man and domestic stock in Rhodesia and Nyasaland. Taute's observation merely affords an explanation of the fact that so comparatively few human beings are infected in these areas; in other words, that healthy human beings are able to a great extent to resist infection. This fact is not very astonishing when we remember that there is no case on record of man being infected by any of the common pathogenic trypanosomes of domestic stock, such as T. congolense, T. vivax, T. evansi, T. equinum, or T. equiperdum.

If experimental inquiry is to be conducted along these lines then one must insist that the work be carried out on a sufficiently large scale, and generalisations not made from a single experiment. As we have had to deal with what has up to the present proved to be an invariably fatal disease it was some time ago obvious that definite results could hardly be hoped for from experiments on

human beings. It is not even permitted to make use of condemned criminals for such purpose.

The onus of proof lies with those who state that the trypanosome found by Dr. Kinghorn and myself in game and wild Glossina morsitans—identical as regards its morphology, pathogenicity, and development in the tsetse with the trypanosome found in man and his domestic animals—is not the human trypanosome. I have repeatedly urged that the only practicable means of obtaining information on this point as on several others, such as the dependence or not on game of Glossina morsitans for its existence and infectivity, is by carrying out the experiment to which Professor Todd refers in his letter.

Many of those who oppose an experiment of this kind being undertaken adopt the almost incomprehensible attitude that it is necessary to be sure beforehand that the hoped for results will certainly be obtained. In effect they say: "First prove that if the game in a certain district be exterminated either the tsetse will disappear or will become non-infective and then we will permit the experiment." If these results could be known beforehand obviously we need not trouble to perform the experiment, but might proceed at once to attack the game in the neighbourhood of human habitations situated in fly areas.

I am, Sir, yours faithfully,

WARRINGTON YORKE.

Runcorn Research Laboratory, Liverpool School of Tropical Medicine, Dec. 16th, 1913.

To the Editor of THE LANCET.

SIR,—In your issue of Nov. 29th Mr. Sheffield Neave writes: "Bruce's theory that T. rhodesiense is nothing else than T. brucei must carry great weight." I should like to point out that whatever T. rhodesiense may be, it is certainly not T. brucei. This name was first given in 1899 by Plimmer and Bradford to a trypanosome which was sent to this country from Zululand. This strain of trypanosome is still extant at Runcorn and in several of the European laboratories.

Sir David Bruce, working at a later period in Uganda, found in an ox a trypanosome which he described as T. brucei. As this Uganda trypanosome is quite different from the Zululand one, the rules of nomenclature will not permit of the name T. brucei being applied to it. The Uganda parasite is identical morphologically, and as regards pathogenicity in laboratory animals, with T. pecaudi and T. rhodesiense, so that if the name T. rhodesiense is to be dropped it must be in favour of the name T. pecaudi, which was the first applied to trypanosomes of this type, and not T. brucei. These points were clearly brought out in a recent communication to the Royal Society by Professor J. W. W. Stephens and myself.—I am, Sir, yours faithfully,

B. BLACKLOCK.

Runcorn Research Laboratory, Liverpool School of Tropical Medicine, Dec. 16th, 1913.

A WORD ON THE TREATMENT OF SYPHILIS BY SYRIAN QUACKS.

To the Editor of THE LANCET.

SIR,—Every medical man confesses that the treatment of syphilis by mercury is a long and tedious process. I am inclined to think that many of us fail to cure syphilis quickly, if we cure it at all, because we are so over-cautious as to giving large and effective doses. In the last few months I have had a chance to follow closely the line of treatment that is followed by quacks in this country and I was surprised at the short time in which they "cure" syphilis. Mercury is used in all cases. The patient is kept for the greater part of a week in a room, tightly closed, and is instructed to fumigate calomel and to keep the room at a uniform amount of saturation. The patient is allowed to leave the room for fresh air, but is indoors for the greater part of the time, and also sleeps in. If I am correctly informed by patients who have undergone this treatment, no cases experience more than slight salivation. At the end of a week the patient quits the fumigation treatment and for two other weeks is put on a diet strictly confined to bread and infusion of sarsaparilla—he is allowed to eat nothing else.

In the last two or three months I have seen several patients who have been relieved of their symptoms by no other means than this method, and they were "cured," they said, in about three weeks. Certainly, no symptoms of syphilis could be detected in the cases that I had brought to my attention, some of which had received treatment two or three years previously and since have not felt any symptoms of the disease. Might this not be good testimony, though it comes from unqualified quacks, to the efficacy of large doses of mercury in the treatment of this disease? I do not consider the fumigation method to be of especial value, except in this, that by it the patient gets large quantities of mercury, both through his lungs and through his skin, and he gets it constantly.

I am, Sir, yours faithfully,

K. S. KRIKORIAN.

American School of Medicine, Beirut, Syria.

REFLECTIONS BY A SICK SEPTUAGENARIAN.

To the Editor of THE LANCET.

SIR,—Having been recommended to rest in bed by my medical advisers I have tried to obey orders and I have in a measure carried out their instructions, and yet I confess I have for the first time discovered that *complete* abstinence from exertion implies the steady and continuous services of one nurse at least. So far fortunately I have not, or fancied I have not, required such unremitting attention.

In the course of an active professional life I have now had the first opportunity of perfect leisure, and have been able to indulge in a course of uninterrupted reading. After dosing myself with *belles-lettres*, biography, and fiction, with a little poetry thrown in, I have upon several occasions fallen back on medical current literature, and this is my excuse for troubling you on this occasion. No doubt there are many practitioners who keep themselves *au courant* with the medical literature of the day. On the other hand, there are to my knowledge others too busy—or so they think themselves to be; and these practically do not know what is going on in the larger world of science and practice, and in consequence are falling behind in the race of professional progress. Such a man "takes in" a medical paper or papers, and often does not even remove the cover! I have heard the story of a country doctor, in an interval of spare time, paying a visit to his neighbour. Walking in unannounced, to his dismay he heard a bullet whizzing past his head. To his startled inquiry as to this mode of reception he was told that his warlike friend was practising pistol shooting, his target for the nonce being the back

numbers of a highly influential medical journal. To such vile uses may the best of literature be put!

But it is time to come to the point of why I am addressing you, or rather your readers—I wish to impress upon them, or more correctly some of them, how much they lose by not perusing, for example, your pages, and how they should order their lives so as to secure time for such study. Take THE LANCET for four consecutive numbers and let me mention a few of the interesting tit-bits to be found in the one month—November. I shall take them at random. The first, and as it happens the best, is Mercier's address on "Heredity," sparkling with humour and full of sound sense, though I think he forgets the apophthegm as to the mothers of men of genius; and next that on "Hysteria" by Glynn, based as all such "prospects" should be on a carefully recorded past experience. The report by Davis and Hall on the intensely interesting question of "Typhoid Carriers," and the not less valuable remarks of Gowland Hopkins on "Diseases due to Deficiencies in Diet." Tubby's suggestive paper on "Nerve Surgery," also Cammidge's on "Diabetes," your review on Davenport's "Eugenics," and the leading article on "Housing in Dublin"—a problem on this side of St. George's Channel, alas! as well as in Ireland. To Insurance panelists the continuation of the valuable local inquiries by your highly capable contributor is enough to make the one week's issue interesting by itself.

Dr. Mott's able paper on the "Degeneration of the Neurone" should make the following number equally so, while Sir Dyce Duckworth's Liverpool address constitutes a timely warning against the adoption of jejune theories as applied in the practice of medicine. The subject of neurasthenia as dealt with in the issue for the last week of the month affords an excellent example of the value of the personal equation both as regards doctor and patient. An unprejudiced study of the combined wisdom of the leading London neurologists amounts merely to this—that not one of them can properly define the subject in debate further than agreeing that the nerve battery is "run down," though in most cases it cannot be said whether the defects have arisen from bad initial construction, from injury, or from failure in the supply of the chemicals required.

And now, to cease to be garrulous and become didactic, I venture to advise my medical brethren to take one forenoon out of the seven in bed, preferably on a Sunday, and post themselves up in the current literature of medicine, surgery, and obstetrics, as also in the pressing professional problems of the day.

I am, Sir, yours faithfully,

Dec. 29th, 1913. WILLIAM BRUCE.

*** Abraham Cowley supplies us with a quotation: "We grieved, we sighed, we wept; we never blushed before."—ED. L.

THE PREPARATION OF THE MOUTH FOR OPERATIONS.

To the Editor of THE LANCET.

SIR,—In reference to the case of cancer of the tongue and larynx removed by operation, and reported by Mr. W. S. Kerr in your issue of Dec. 20th, 1913, some ten years ago I saw in a London hospital nine consecutive cases of major operations about the tongue and floor of the mouth end fatally a few days after the operation. Death in each case was due to septic complications obviously caused by pyorrhœa alveolaris, which at the post-mortem examinations I observed to be present.

Shortly after this, in a further series of five cases, I was called in to prepare the mouth for the operation. This was done by the extraction *of all the teeth and stumps*, followed by antiseptic treatment of the wounds for a week or ten days (painting the surface of the gums with a 2 per cent. solution of iodine in rectified spirit twice daily is probably the best method). These five patients were alive and well three months after the major operation.

In my next case the patient absolutely refused to have all his teeth removed. He would only allow me to extract the loose ones. I carefully scaled and cleansed the remainder. He died about six days after the major operation from septic complications.

My experience since has confirmed me in my belief that if periodontal disease is present *even in a slight degree* the only safe course is *to extract every tooth* at least one week before the major operation. It should be remembered, too, that practically every hospital patient has pyorrhœa.

It is difficult to understand the attitude of the surgeon who takes infinite precautions to sterilise the area of operation before making a skin incision and who yet will perform an extensive operation in the mouth actually in the presence of pus.

I am, Sir, yours faithfully,

F. ST. J. STEADMAN, M.R.C.S. Eng.,
L.R.C.P. Lond., D.P.H.,
Assistant Dental Surgeon to the West London Hospital, &c.
Wimpole-street, Cavendish-square, W., Dec. 20th, 1913.

AMŒBIC DYSENTERY?

To the Editor of THE LANCET.

SIR,—The greater part of the medical profession in this country seem to be singularly blind to the possibility of their patients acquiring tropical diseases without going abroad, and yet we are all familiar with the fact that many tropical animals and plants become acclimatised and thrive here; there is nothing incredible, therefore, in the idea that the micro-organisms of tropical diseases may equally thrive in England and reproduce their specific diseases in this temperate climate. The following case may serve for an illustration.

At the end of last August, a man aged 30, consulted me as to diarrhœa, from which he had suffered continuously since childhood, at least 18 years. The stools were putty-coloured and varied between 5 and 15 a day. It had been difficult for him to carry on his business, and he was quite unable to join in social functions. He had during the worst attacks considerable pain and tenesmus, followed by bloody stools for a week at a time. During several years he had been treated by various eminent physicians. The diagnoses varied—"nervous diarrhœa," intestinal tubercle, and disease of the colon (needing operation) were a few out of many. One nasal specialist put the whole trouble down to post-nasal catarrh and wanted to remove part of the turbinated bone. The patient told me of many remedies which had been prescribed with no effect for more than a day or two.

A few months ago I had been discussing with my daughter, who practises in India, tropical dysentery and other intestinal cases. Bearing in mind what I had learned from her, I came to the conclusion that the case before me might be one of amœbic dysentery, and advised the patient to have a course of hypodermic injections of emetine hydrochloride. After a delay of several weeks he agreed; for six

consecutive days I gave hypodermically ½ gr. of the salt each morning. After the second dose, on Oct. 16th, the stools dropped to one a day, and became normally coloured and formed. When the drug was left off after the six doses the improvement remained, and on only four occasions since has he had more than one evacuation in a day. Three days before the hypodermic injections were begun his weight when stripped was 9 st. 4 lb., now it is 10 st. 1 lb. It seems, therefore, as if a cure has been effected, and that probably the diagnosis was correct. The patient has never been out of Great Britain. My opinion is that the disease was acquired when he was living in Plaistow, Essex, either through contaminated food or water.

If, on the other hand, my diagnosis was wrong, then the treatment seems worth trying in other forms of obstinate diarrhœa, especially in cases where tubercle of the intestine is suspected. As a matter of precaution the patient has had six more hypodermic injections at intervals of three days, though no relapse has occurred. No other medicine has been used since Oct. 16th. The old name given to ipecacuanha by Helvetius, "radix antidysenterica," is more deserved than it ever was, now that the unpleasant effects of the remedy can be eliminated by the use of the alkaloid.

I am, Sir, yours faithfully,

Dec. 25th, 1913. VERE G. WEBB.

INTESTINAL KINKS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Dec. 20th your correspondent, Mr. C. Hamilton Whiteford, has raised some very pertinent queries regarding the effects of angulation or kinking of the intestines. This subject has received so much attention lately that by many it is looked on almost as a fetish, invoked to explain all disorders, and the present mode in surgery is to introduce a new theory of cause and effect. Without apology, therefore, I conform to the general attitude, but ask leave to plead rather for the utility of peri-visceral adhesions. Abdominal veils and bands, in my opinion, are sometimes noxious, yet in many instances a helpful function may be exercised by their presence. A decade ago one heard that an all-wise Providence had provided the appendix, tonsils, and foreskin as appropriate trophies for the lesser surgeons; nowadays one imagines that the large intestine is the legitimate prey for their maturer years.

Nature does not always work viciously, and one must accept with caution the destructive pessimism of the over-zealous partisans of ileo-sigmoidostomy. Taking Mr. Whiteford's questions seriatim, I believe—

1. A band in itself may produce no symptoms of obstruction, either by angulation or by reducing the calibre of the gut. Normal kinks are found in the human intestine, and Keith has shown that 20 per cent. of fœtuses have aberrant accessory adhesions. How many cases endowed at birth with these present symptoms of stasis in infancy? The band may for a time exercise beneficial control, but afterwards become stretched and lax, allowing enteroptosis to occur, with stagnation of the fluid contents, and this effect is really due to non-efficient support; the useful fixation of the band is lost. It may by condensation and shortening drag upon a coil, pulling it up and causing angulation to such degree that stasis occurs. In some cases misfortune arises from the non-support of portions of intestine, which properly splinted in position by adhesions would not become displaced, while an adjacent part fixed by the band remained in the proper site. Lastly, the band may produce stasis by constriction. Where an adhesion has been present for a time and later shrinks, causing kinking or narrowing of calibre of the gut, I believe this to result from a sclerosis largely the effect of change during middle age, and resembling the hardening got in the connective tissues generally, as in the brain, eye, heart, arteries, or prostate. This I have named "condensation obstruction," a condition which might be avoided were the general youthfulness of the tissues preserved in some way. Note especially how volvulus tends to occur after middle life from shrinking of an adhesion pedicle approximating a loop of intestine at its base.

2. A kink may produce obstruction; on the other hand, a sheath or veil of adhesions may prevent it by preventing over-distension. I have at present in my wards a patient whose great intestine at operation showed a reticulated cicatricial mosaic exactly like the striæ albicantes after pregnancy, and suggesting a similar origin, coming on after alternate contraction and distension of the colon, causing slight tears and cracks which fill up with connective tissue. Such a cicatricial effect would exert centripetal pressure on the intestine, preventing over-distension and thus preventing stasis.

This arrangement might be compared to the tartan envelope which encases the national instrument of Scotland, preventing the stasis of its melodies. Also the effect in causing enhanced velocity of the contents is as that in carcinoma of the rectum, where diarrhœa ensues when the natural ballooning is interfered with, and a portion of dilatable intestine is replaced by an immobile tube of solid cancerous tissue. Apart from obstruction or diarrhœa, or neither, a kink or adhesion may produce chronic or recurrent pain in the abdomen.

3. The bowel proximal to a kink may present no change, may be hypertrophied to overcome resistance, or may be dilated. Jordan's plates clearly show the latter effect. In cases of atonic dilatation look to the neuro-muscular regulating apparatus as well as to the muscular coats.

4. The radiographer might decide the question of other symptoms than those of obstruction or dilatation.

5. A kink in a portion of intestine drawn up to or beyond an incision in the abdominal wall is *not* proof that such exists in the passive state. On the other hand, I have seen a case of fatal intestinal paresis with definite kinking without adhesions of any kind causing it, the condition being entirely due to increased intravisceral pressure with sharp angulation at a flexure causing a collapse, much as happens when a goose quill is bent acutely.

I am, Sir, yours faithfully,

SPENCER MORT,
M.D., Ch.B. Glasg., F.R.C.S. Edin.

Edmonton, Dec. 23rd, 1913.

IODINE IN THE DRESSING OF WOUNDS.

To the Editor of THE LANCET.

SIR,—I have recently returned from the Balkans after a year's absence. After leaving Adrianople, where I worked for three months, I was invited to join the fourth division of the Bulgarian army, as a medical officer, during the operations against the Greeks and Serbs, and I remained from the outbreak of war to the conclusion of the infamous treaty of Bucharest with the Bulgars.

During this period I saw and treated many fresh wounds by the iodine treatment, and can vouch for its wonderful efficacy. How often, however, does one see wet dabs used to swab out the wound prior to the application of iodine? Mr. H. F. Waterhouse and Mr. W. S. Fenwick have shown that in the preparation of skin by iodine the importance of keeping water away prior to the application is paramount.

Why I am asking you to publish this letter is not so much to recommend the dry treatment of wounds, but, after a really huge trial, to recommend the cleaning of the skin round the wound and even the wound itself with a 1 per cent. solution of iodine in benzene. This is far and away the finest cleansing method I have seen used or have used myself, and I think it was an important factor in the results obtained in the fighting in the Balkan States.

I am, Sir, yours faithfully,

Sutton, Surrey. EDWARD S. CALTHROP.

INSTRUCTION IN THE NATURE OF ALCOHOLISM.

To the Editor of THE LANCET.

SIR,—Is it not time that the nature of alcoholism and its treatment should be taught more definitely in our medical schools? Whatever he may or may not see in practice, the general practitioner is always bound to meet with these unfortunate victims of alcohol. The question has been brought home to me during the last few years owing to the fact that I see so many patients—victims of pseudo-dipsomania—who have been advised by their medical attendants to limit their drink to a glass at meals—advice which is, of course, absolutely fatal. I do not blame them for a moment. I was never taught anything about alcoholism when I was a student, and I have no reason to suppose things are different now.

May I also call attention to another fatal error, which has, I am sorry to say, the authority of a well-known medical work on its side? Delirium tremens is induced by the sudden cutting off of alcohol in the case of a chronic alcoholic after prolonged drinking. It is *not* induced if the drinking bout is only of a few days' duration. Possibly the mistake arose from confusion of the two conditions.

I am, Sir, yours faithfully,

HUGH WINGFIELD, M.D. Cantab.

Welbeck-street, W., Dec. 17th, 1913.

THE NATIONAL MEDICAL UNION: THE LONDON PANEL.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Dec. 27th you state that it is reported that the number of practitioners on the London panel in November last was 1458, of whom 88 were resident officers to institutions. You omitted to mention that 100 of these did not reside within the county, and are therefore counted twice over, once in their own county and once in the County of London, thus giving rise to the error that Mr. Lloyd George made when he informed us that the number of doctors on the panel was over 18,000. I am given to understand that the numbers probable are 14,000 panel and 17,000 non-panel. In any case we London men can certainly congratulate ourselves that out of 6300 names on the Medical Register only about 1300 have "eaten" their written words and are now servants of the London Insurance Committee. The National Medical Union is the new non-panel federation. Its members have a high standard of medical honour, and are men who would sooner suffer financial loss than lower their professional dignity.

It is, in my opinion, the duty of all non-panel men to join the union. The secretaries state "that applications for membership are coming in with encouraging and continuous volume."

I am, Sir, yours faithfully,

E. H. WORTH, M.R.C.S. Eng.

Streatham, S.W., Dec. 27th, 1913.

THE PSYCHOLOGY OF RAILWAY ACCIDENTS.

To the Editor of THE LANCET.

SIR,—Your leading article on the above subject compels attention to a seriously frequent failure of human efficiency in the individual, condoned by his associates, who obviously do not think they could do the work better, nor that they should be asked to do it better. Are we, then, as Mr. G. K. Chesterton once asked with bated breath, losing our efficiency? Or is it that we do not pay enough heed to our jobs? In the old days when people had nothing to occupy them but their jobs they were proud of their jobs. Now when we have got away from work we can read the papers, we can go to moving pictures if in town, or work on our allotments if in the country; we have these other things getting between us and our work, and the boasted skill of the craftsman, the artist's sacrifice of the man to his work, comes no longer forward, but one hears rather of successful evasion of duty and of victory over an employer—just the talk one used to hear long ago at school, but then amongst irresponsible boys. What is to be done? I suppose we can only each of us show a good example of devotion to duty which shall leaven the whole lump, and by the medical profession the State will be saved, as Sparta by Tyrtaeus.

I am, Sir, yours faithfully,

Victoria, B.C., Canada, Dec. 4th, 1913. W. E. H.

PS.—My best congratulations on your "reversion to type." The change is very acceptable.

A MUNIFICENT BEQUEST.—By the death of Mr. Geoffrey Charles Ansell, which took place recently, a large sum of money has become available for various charities under his father's will. Mr. Ansell, who was only 17 years of age, met with an accident in Switzerland some two years ago. The bequests include £50,000 to King Edward's Hospital Fund; £25,000 each to the National Society for the Prevention of Cruelty to Children and the Royal Society for the Prevention of Cruelty to Animals; £10,000 each to Charing Cross Hospital, Guy's Hospital, the London Hospital, the Middlesex Hospital, St. Bartholomew's Hospital, St. George's Hospital, St. Thomas's Hospital, and Westminster Hospital; £4000 each to King's College Hospital, University College Hospital, the Royal Free Hospital, the Great Northern Central Hospital, the Cancer Hospital, Fulham-road, the Brompton Hospital for Consumption and Diseases of the Chest, City of London Hospital for Diseases of the Chest, Royal Hospital for Diseases of the Chest, London Fever Hospital, London Lock Hospital and Rescue Home, National Hospital for Diseases of the Heart, Queen Charlotte's Lying-in Hospital, Royal London Ophthalmic Hospital, Royal Orthopædic Hospital, Hospital for Diseases of the Throat, Nose, and Ear, Royal Hospital for Children and Women, Hospital for Sick Children, Great Ormond-street, and the Victoria Hospital for Children. The ultimate residue of the estate is to be held in trust for London Hospitals.

THE NATIONAL INSURANCE ACT.

WORK OF THE MEDICAL REFEREES.

A REPORT has been presented to the London Insurance Committee with reference to the work of the medical referees lately appointed. About 30 Approved Societies had made use of the scheme, and over 700 applications had been dealt with. The following analysis was given in respect of 471 applications received to the end of October:—

—	Report of medical referee after examination.		Action where no examination was made.		Total.
	Capable.	Incapable.	Cases withdrawn.	Cases in suspense.	
Men	33	54	13	3	103
Women	175	113	63	17	368
Total	208	167	76	20	471

In the 76 cases withdrawn by Approved Societies examinations were arranged, but the insured persons failed to attend. In the majority of such cases they "declared off" from benefit. Of the 208 persons reported as "capable" of work 30 per cent. were originally furnished with certificates for debility, anæmia, weakness, &c., and 15 per cent. with certificates for rheumatism and dyspepsia. The reports did not show that any high percentage of these cases were malingerers, but that low vitality, lack of nourishment, and mental inertia were predisposing causes of "invalidism." The few cases of obvious malingering had generally been in respect of persons in receipt of low wages. The interpretation of "incapable of work" had presented some difficulties, and in some cases the referees had reported that though incapable of his usual work an insured person was capable of light work. The question whether pregnancy in itself should be regarded as incapacity also arose. The need for an extension of the drug tariff, to include such appliances as trusses, elastic stockings, and spectacles, became apparent in many cases. The number of cases in which incapacity was traceable to some extent to defective teeth was remarkable, especially in cases of rheumatism and dyspepsia. Many of the certificates of practitioners appeared to have been questioned because they did not indicate clearly the nature of the illness. Some discussion took place on the report, and it was decided to send a copy of the report to the Departmental Committee on Excessive Sickness Claims, with the proviso that no extension of benefit should take place without adequate financial assistance from the Government. It has been urged that pregnancy should be regarded as entitling to sickness benefit, and that extensions of the drug tariff in special cases should be possible.

NATIONAL MEDICAL UNION.

The Provisional Federating Council of the National Medical Union have formulated the following policy, viz:—

1. To maintain the freedom of the medical profession in its professional and personal relations with the public.
2. To support the public in maintaining a corresponding freedom and to safeguard the national health.
3. To oppose the present arrangements for medical benefits under the National Insurance Acts, and to decline professional service under such arrangements.
4. To preserve an independent attitude with regard to party politics.

They add that this is a preliminary statement only, and is intended to indicate the broad lines upon which the future policy of the Union will be evolved as soon as the present Provisional Federating Council have completed their duties of organisation. New non-panel associations have been formed, and the honorary secretaries of the Union state that many members from all parts of the country have been enrolled.

The Provisional Federating Council say that it is necessary to make it clear that the Union is an organisation pledged solely to non-panel interests. The offices are in the *Morning Post* Buildings, 346, Strand, London, to which address all non-panel practitioners who are in sympathy with the policy outlined are invited to write.

Medical News.

UNIVERSITY OF OXFORD.—The following degrees have been conferred:—

D.M.—H. G. Butterfield, A. F. S. Sladden, L. T. Burra, E. P. Poulton, M. B. Baines, and A. J. Jex-Blake.
B.M. and B.Ch.—G. T. Hebert, J. A. G. Sparrow, A. H. Southam, R. O. Ward, and J. F. Venables.

The following candidates have been approved in the undermentioned examinations:—

Diploma in Public Health.—Part II.: C. H. Browning, R. H. Deans E. T. H. Lea, T. J. Mackie, and H. K. Ward. Part I.: E. G. Brander, C. H. Browning, N. A. Coward, W. Gilmour, C. B. Gratte, F. R. M. Heggs, H. L. Hopkins, E. T. H. Lea, T. J. Mackie, A. B. Mitchell, J. Powell, E. L. N. Rhodes, H. W. White, and J. H. Wood.
First B.M. Examination: Organic Chemistry.—J. H. Beattie, A. J. I. Donald, R. H. Freeman, C. K. J. Hamilton, J. T. S. Hoey, A. H. Macfarlane, R. L. H. Nunn, T. Patterson, G. H. F. Power, G. H. Rossdale, and A. L. B. Stevens.
Human Anatomy and Human Physiology.—C. J. A. Buckell, J. C. Dixey, J. W. Horan, H. S. Jeffries, J. C. Paterson, and C. H. Terry.
Second B.M. Examination: Materia Medica and Pharmacology.—H. E. Bamber, B. A. Bull, J. J. Conybeare, K. M. Dyott, A. G. East, V. T. Ellwood, F. C. Gladstone, O. H. Gotch, T. E. Micklem, T. S. Nelson, H. M. Oddy, O. G. Parry-Jones O. B. Pratt, A. B. Thompson, S. W. F. Underhill, and H. St. H. Vertue.
Pathology.—W. T. Collier, C. Dean, J. A. G. Sparrow, and C. W. Wheeler-Bennett.
Forensic Medicine and Public Health.—A. C. Ballance, J. D. Batt, E. W. Carrington, C. Dean, A. W. Dennis, R. S. A. Heathcote, G. T. Hebert, A. S. Thompson, J. F. Venables, W. W. Waller, and R. O. Ward.
Medicine, Surgery, and Midwifery.—A. C. Ballance, E. W. Carrington, R. S. A. Heathcote, G. T. Hebert, E. W. N. Hobhouse, A. H. Southam, J. A. G. Sparrow, W. W. Waller, and C. W. Wheeler-Bennett.

UNIVERSITY OF CAMBRIDGE.—The following medical degrees have been conferred:—

M.C.—K. J. A. Davis, King's; and R. M. Vick, Jesus.
M.B., B.C.—H. Y. Mansfield, Emmanuel.
B.C.—J. H. Newmarch, Pembroke; and T. H. Oliver, Caius.

At examinations held recently the following candidates were successful:—

THIRD EXAMINATION (*Old Regulations*).

Part II., Surgery, Midwifery, and Medicine.—W. Boys-Stones, B.A., and H. H. Brown, B.A., Caius; D. S. Bryan-Brown, B.A., Downing; R. G. Canti, B.A., King's; N. Garard, B.A., Pembroke; W. B. Gourlay, B.A., Trinity; S. M. Hattersley, B.A., Emmanuel; T. A. Jones, B.A., G. A. Lilly, B.A., and E. J. Nangle, Caius; M. J. Petty, B.A., Downing; J. M. Postlethwaite, B.A., Emmanuel; H. J. S. Shields, B.A., Jesus; G. Sparrow, M.A., and J. W. Stretton, B.A., Caius; A. L. Sutcliffe, B.A., Sidney Sussex; and F. W. Watkyn-Thomas, B.A., Trinity.

THIRD EXAMINATION (*New Regulations*).

Part I., Surgery and Midwifery.—D. C. G. Ballingall, B.A., Emmanuel; P. H. Berry, B.A., King's; W. G. Bigger, B.A., Queen's; A. H. Brown, B.A., Christ's; I. M. Brown, B.A., Downing; E. H. P. Brunton, B.A., and J. Deighton, B.A., Trinity; G. D. East, B.A., Emmanuel; A. T. Edwards, B.A., St John's; B. C. Ewens, B.A., Caius; W. B. Gordon, B.A., Clare; N. Gray, B.A., Emmanuel; J. D. Jones, B.A., H. Selwyn; H. H. Mashias, B.A., King's; C. J. Scholt, B.A., Emmanuel; L. R. S. Sharp, B.A., Trinity; L. R. Shore, B.A., St. John's; A. C. S. Smith, B.A., Trinity; and A. W. Uloth, B.A., Pembroke.

Part II.—E. J. Bradley, B.A., Jesus; J. Brewer, M.A., Emmanuel; E. H. P. Brunton, B.A., Trinity; E. N. Butler, B.A., Clare; J. Deighton, B.A., Trinity; G. D. East, B.A., Emmanuel; B. C. Ewens, B.A., Caius; A. R. Jennings, M.A., Jesus; H. H. Mathias, B.A., King's; P. W. Ransom, B.A., Pembroke; A. V. Stocks, B.A., St. John's; A. G. G. Thompson, B.A., Pembroke; and R. L. M. Wallis, M.A., Downing.

UNIVERSITY OF LONDON.—At examinations held recently the following candidates were successful:—

M.D. EXAMINATION.

Branch I., Medicine.—Thomas Beaton, Charing Cross Hospital; Wilfred E. Burrows, Middlesex Hospital; Hazel Haward Cuthbert, London (Royal Free Hospital) School of Medicine for Women; Reginald Robert Elworthy, Westminster Hospital; William Charles Fowler, University College Hospital; Geoffrey Hadfield, St. Bartholomew's Hospital; Robert Henry Hatten Jolly, Charing Cross Hospital; Cicely May Peake, London (Royal Free Hospital) School of Medicine for Women; Ernest Edward Andrew T. Rigg, Harry Dudley Rollinson, and Alfred Richard Spencer, University College Hospital; George Edgar Septimus Ward, Middlesex Hospital; and Gordon Reginald Ward, Westminster Hospital.

Branch III., Mental Diseases and Psychology.—Ralph Brown, University College and Westminster Hospitals; and Alfred Alexander Webster Petrie, University of Edinburgh.

Branch IV., Midwifery and Diseases of Women.—David John Harries, University College Hospital; Reginald Larkin, Guy's Hospital; and Arthur Arbuthnot Straton, St. Mary's Hospital.

Branch VI., Tropical Medicine.—Robert Kelsall, Victoria University of Manchester and London School of Tropical Medicine.

M.S. EXAMINATION.

Branch I., Surgery.—Harry Cecil Rutherford Darling, University College Hospital; and Ernest Frederick Finch, University of Sheffield.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in December, 1913, the following candidates passed in the subjects indicated:—

Surgery.—S. de Moor (Section I.), Amsterdam; J. de Silva (Sections I. and II.), St. Mary's Hospital; R. B. F. Frazer (Section II.), Charing Cross Hospital; J. A. Prendergast (Sections I. and II.), Leeds; and D. Schonken (Section I.) and J. D. Schonken (Section I.), Amsterdam.

Medicine.—E. M. D. N. Baker (Sections I. and II.), Brussels; A. C. O. Brown (Sections I. and II.), Birmingham; H. V. Capon (Sections I. and II.), St. Bartholomew's Hospital; J. de Silva (Sections I. and II.), St. Mary's Hospital; and J. E. Taylor (Sections I. and II.), Leeds.

Forensic Medicine.—J. de Silva and G. L. Lawlor, St. Mary's Hospital.

Midwifery.—S. de Moor, Amsterdam; and J. de Silva, St. Mary's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—A. C. O. Brown, H. V. Capon, R. B. F. Frazer, J. de Silva, and J. E. Taylor.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held in December, 1913, the following candidates satisfied the examiners:—

FINAL M.B. AND CH.B.

O. R. Allison, Allan Barrett, Ada L. Bentz, W. R. Biore, F. S. Charnock, C. H. Crawshaw, H. N. Crossley, H. S. Gerrard, Cornelius Thompson, F. K. Tomlinson, C. H. Whittall, H. W. F. Williams, G. W. Wood, and W. H. Wood.

Medicine and Obstetrics.—H. C. Duffy.

Forensic Medicine and Toxicology.—J. E. Brooks, *E. A. Linell, W. A. Rogerson, J. R. Slack, *Henry Wilson, and W. H. Wood.

* Awarded distinction.

THIRD M.B. AND CH.B. EXAMINATION.

J. C. Bramwell, J. S. Chorlton, S. G. J. Dowling, *A. T. Gibb, J. D. Kenyon, J. G. McKinley, H. M. von Mengershausen, H. H. Stones, C. G. Todd, *Frank Vause, Louis Walton, and Richard Willan.

* Distinction in Pathology.

Pharmacology, Therapeutics, and Hygiene.—William Halliwell J. F. C. O'Meara, M. C. Paterson, and C. G. Todd.

SECOND M.B. AND CH.B. EXAMINATION.

*J. H. Atkinson, J. D. Byrd, Hitchen Chadwick, W. P. Christopher, Richard Colley, E. W. Fish, Eva L. Glasier, Alice M. A. Holt, J. L. Leigh, B. L. Lloyd, R. L. Newell, F. C. Ormerod, J. A. Panton, Nesta H. Perry, Dorothy Potts, Walter Stansfield, Brian Walley, and G. B. Wild.

* Awarded distinction in Anatomy.

FIRST M.B. AND B.D.S. (PART III.)

R. J. Allison, G. E. Hayward, Elizabeth C. Powell, and James Yates.

UNIVERSITY OF LIVERPOOL.—At examinations held recently the following candidates were successful:—

DEGREES OF M.B. AND CH.B.

Second Examination.—Part A: N. J. Allan, M. Azer, R. Coope, A. J. B. Griffin, Amy Hodgson, Mary E. Illingworth, S. Pool, A. McK. Reid, and E. S. Stubbs. Part B: H. Garas (with distinction), A. G. McColl, L. Oldershaw, H. C. Roberts, and J. Rumjahn.

Final Examination.—Part I.: R. J. Minnitt, J. J. K. Pentony, and R. H. G. Weston. Part II.: H. G. Bywater and F. C. Wilkinson.

DEGREE OF B.D.S.

Third Examination.—A. E. Meeson (with distinction).

DIPLOMA IN DENTAL SURGERY.

Third Examination.—R. Baron and B. R. Townend.

DIPLOMA IN TROPICAL MEDICINE.

C. M. Austin, S. S. Banker, M. Carrasco, J. M. Clark, B. C. Hopper, I. O. K. Khaw, J. C. Noronha, E. O'Connor, A. B. Pestonji, E. A. Smith, S. D. Stewart, E. E. Wilbe, and H. F. Wilson.

UNIVERSITY OF LEEDS.—At a Congregation of the University held recently degrees were conferred as follows:—

Bachelor of Medicine and Bachelor of Surgery.—H. L. Taylor (with second-class honours), L. H. Butler, W. D. A. King, and K. Menon.

The following pass lists are announced:—

Final M.B. and Ch.B.—Part II.: W. H. Lonen. Part I.: H. S. Bhalla, C. M. Gosney, H. S. Lockwood, C. H. Seville, and Jessie Smith.

Second M.B. and Ch.B.—Part II.: S. Adler, H. E. Charles, C. W. Dudley, Emily E. V. Glover, G. F. Hurst, W. O. Lodge, L. Mosses, J. H. Parker, N. Pick, M. Rosencwige, W. O. Rowden, P. Shillito, I. Silverstein, and C. H. Smith. Part I.: Jane Bamford, C. W. Dudley, Z. P. Fernandez, W. L. M. Gabriel, F. H. Goss, C. R. Knowles, I. Liberman, W. O. Lodge, M. Rosencwige, A. L. Telling, and F. Walton.

Diploma in Psychological Medicine.—W. Robinson.

DENTAL EXAMINATIONS.

First B.Ch.D.—Part III.: G. R. Baxter.

Final L.D.S.—Part I.: H. V. Waddington and N. T. Williamson.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bonn:* Dr. R. O. Neumann, of Giessen, has been appointed to the chair of Hygiene, in succession to Dr. C. Ziegler, who is going to Freiburg, but will not enter upon his new duties until after the termination of the winter session.—*Breslau:* Dr. Josef Forschbach, *privat-docent* of medicine, has been appointed Chief Physician of the Medical Policlinic.—*Frankfort:* A new municipal hospital for nervous diseases has been opened at Köppern.—*Greifswald:* Dr. Paul Adloff, chief surgeon to the University Dental Clinic and *privat-docent* of odontology, has been granted the title of Professor.—*Strasburg:* Dr. Oesterle, professor in Berne, has been offered the chair of Pharmaceutical Chemistry, in succession to the late Dr. Schaer. Dr. G. Skeiner has been recognised as *privat-docent* of Psychiatry and Neurology.—*Tokio:* Dr. Aoyama, dean of the Medical Faculty, on the occasion of his twenty-fifth year "jubilee" as a professor, has been elected an honorary member of the German Society of Nature and Social Science.

NATIONAL BUREAU FOR PROMOTING THE GENERAL WELFARE OF THE DEAF.—At the second annual meeting of this Bureau, which was held recently at 22, Upper Brook-street, London, Mr. Leo Bonn, the President, in moving the adoption of the report, said that the year 1913 had been one of exceptional activity and remarkable results in all branches of work connected with the deaf, and alluded to the progress made by the Bureau as specially marked by the publication of Dr. J. Kerr Love's lectures on the Causes and Prevention of Deafness. These lectures had, he said, created universal interest, and a medical committee of the Bureau has now drawn up a series of practical proposals for the prevention of deafness, based upon their conclusions which the executive committee is considering. Mr. P. Macleod Yearsley, having said that Dr. Kerr Love had, by his devotion to the cause of the deaf child, raised for himself a monument of which any man might be proud, referred to the practical suggestions for the prevention of deafness, both hereditary and acquired, made by the medical committee of the Bureau, which had sent a deputation to the London County Council to enlist the sympathy of that body. This deputation, he considered, had nothing to complain of in its reception, and if an endeavour to arouse the recently formed Central Health Committee for London to a sense of duty to the deaf had not been quite so successful, that matter would probably come up again. Mr. Yearsley then dealt with the suggestions for the prevention of acquired deafness, especially with the necessity for appointing aural surgeons to fever hospitals, placing school centres for the treatment of ear diseases under specialists, and the notification of meningitis and syphilis, and gave it it as his sincere belief that if these suggestions were given practical form deafness might be made to pass away from amongst us, as Dr. Kerr Love had said, within the next three generations. The fight that was before them was a very strenuous and uphill one, not because there was opposition, but because there was so much apathy. He liked opposition, it strengthened one and could be dealt with like a boulder across the road—it could be moved or blasted away; but apathy was like mud, it clogged and

clung, making progress terribly difficult. Mr. B. St. J. Ackers, Mr. F. G. Barnes, and the Rev. F. W. G. Gilby dealt with various aspects of the problems presented by the deaf population, and Dr. C. W. Saleeby moved a vote of thanks to the chairman.

ON Dec. 16th, at Buckingham Palace, Dr. James Forster, of Conisbro, was decorated by the King with the silver life-saving medal of the Order of St. John of Jerusalem for gallantry at the Cadeby mine disaster in 1912.

THE ANTHRAX COMMITTEE. — Sir Thomas Whittaker, M.P., has resigned the chairmanship of this committee, and Mr. W. Middlebrook, M.P., has been appointed chairman in his stead.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART.—The opening ceremony of the new hospital in Westmoreland-street, Marylebone, W., will be performed by H.R.H. Prince Arthur of Connaught, K.G., at 3.15 P.M. on Monday, Jan. 12th.

ROENTGEN SOCIETY.—The secretary asks that members of this society, the next meeting of which takes place on Monday, Jan. 5th, will note that the time and place of the meeting have been altered. The meeting, as advertised in our Diary of medical events, will take place at Middlesex Hospital, W., at 8.15 P.M.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Dec. 18th, 1913, Sir Francis H. Champneys being in the chair. A letter from one of the Board's examiners, asking the Board to reconsider its refusal to approve Mary Robinson for the purpose of training candidates for the Board's examination in practical work was further considered, also a communication from Dr. J. J. Buchan, medical officer of health for Bradford, on the same subject. The Board decided that the application be granted, but that the authorities of the Leeds Maternity Hospital be asked to satisfy themselves that the rules of the Board are being fulfilled with regard to pupils at Bradford, and that for the year 1914 the certificates of pupils at Bradford be countersigned by the authorities at Leeds. A letter was considered from a registered medical practitioner asking for approval to sign *pro hâc vice* an examination certificate on behalf of a candidate in respect of a portion of her cases. The Board decided that the application be granted. A letter was considered from the town clerk of Warrington asking the Board to restore to the roll the name of a woman which had been removed from the roll at her request on the ground of ill-health in 1910. The Board directed that the medical officer of health for Warrington be asked: (*a*) whether the woman in question is able to take temperatures correctly; (*b*) whether she does so in all cases attended by her, according to the rules of the Central Midwives Board; (*c*) whether her register was well kept while she practised as a midwife; and (*d*) what she has been doing since her resignation.—At a special meeting of the Board on Dec. 19th a number of midwives were struck off the roll, the following charges, amongst others, having been brought forward:—Attending confinements for the purpose of assisting an uncertified person who had been struck off the roll of midwives, to continue habitually and for gain to attend women in childbirth in contravention of Section 1 (2) of the Midwives Act; being unable to make use of a clinical thermometer, and consequently unable to take the temperature of patients as required by Rule E. 13; neglect to take the necessary steps to secure the cleanliness and comfort of the patient as required by Rule E. 11, leaving her after the confinement in a very dirty and neglected state, and failing to comply with Rule E. 1 (b); giving a false certificate and a false notification to the local supervising authority that the child was stillborn; a child suffering from inflammation of and discharge from the eyes from the fourth day, and so suffering during the residue of the midwife's attendance she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (5); not keeping the register of cases as required by Rule E. 23; not habitually taking or recording the pulse or temperature of patients, as required by Rule E. 13; when called to a confinement, not taking the appliances and antiseptics required by Rule E. 2.

A CENTENARIAN.—The death has occurred at Symondsbury, West Dorset, of Mrs. Wilkins, in her 101st year.

SILVER WEDDING GIFTS TO CHARITY.—Mr. Lawrence Cotton and his brother, Mr. Clement Cotton, have each given £1000 to the Blackburn Infirmary for the purpose of endowing cots in celebration of their respective silver weddings.

LITERARY INTELLIGENCE.—Major W. S. Patton, I.M.S., of the King Institute of Preventive Medicine, Guindy, and Captain Francis W. Cragg, I.M.S., of the Central Research Institute, Kasauli, have just issued a textbook on "Medical Entomology," intended to meet the needs of medical, sanitary, and veterinary officers who have to do with diseases communicated to man and domestic animals by means of insects.

ROYAL INSTITUTE OF PUBLIC HEALTH.—A course of instruction for tuberculosis officers, school medical officers, and medical practitioners will be delivered during January, February, and March in the lecture room of the institute, 37, Russell-square, London, W.C., on Fridays at 5 P.M. The particulars will appear in our diary of the week, and further information may be obtained from the secretary, Mr. E. L. Ryley.

A COMPLETE SCHOOL CLINIC.—The council of the county borough of St. Helens, Lancashire, has established a fully equipped school clinic for the treatment of ear, throat, and eye defects, and also minor ailments. An X ray apparatus has been provided for the treatment of ringworm and the diagnosis of pulmonary tuberculosis. In the same building, but separated from the clinic, is a tuberculosis dispensary, provided with consulting-, waiting-, and dressing-rooms, and a small laboratory for the examination of specimens. A sanatorium providing accommodation for about 60 cases of phthisis will be opened in the course of a few weeks.

ROYAL SUSSEX COUNTY HOSPITAL, BRIGHTON.—For some time extensive work has been going on at the Royal Sussex County Hospital, Brighton, in the construction of outside balconies, and the work having now been completed the balconies were formally opened on Dec. 17th last, following a special court of the governors. Three of the balconies on the west side have been given by the late Mrs. David Smith, widow of a former Member of Parliament for Brighton; the extension of the Overton ward balconies was provided by Mrs. William Jones, and the whole of the eastern balconies—at the Defflis, Egremont, Peel, and children's wards—were the gift of Miss Louise Sassoon. The president of the institution, Mr. C. R. Scrase Dickins, who declared the balconies open, thanked the donors who had given to the medical and surgical staff the means of helping their patients to convalescence at greater speed.—At the same governors' meeting it was decided to spend £4250 on structural alterations for the centralisation of the heating and hot water service, by which it is hoped to effect substantial economies.

ROYAL INSTITUTION.—The following are among the lecture arrangements at the Royal Institution before Easter:—Professor W. Bateson, Fullerian professor of Physiology, Royal Institution, six lectures on Animals and Plants under Domestication. Dr. W. McDougall, two lectures on the Mind of Savage Man (illustrated by the Pagan Tribes of Borneo): (1) His Intellectual Life; (2) His Moral and Religious Life. Professor C. F. Jenkin, three lectures on Heat and Cold. Dr. C. W. Saleeby, two lectures on the Progress of Eugenics: (1) The First Decade of Modern Eugenics, 1904–14; (2) Eugenics To-day, its Counterfeits, Powers, and Problems. Dr. J. A. Harker, two lectures on the Electric Emissivity of Matter: (1) The Metals; (2) Other Substances (with experimental illustrations). Professor Sir J. J. Thomson, professor of natural philosophy, Royal Institution, six lectures on Recent Discoveries in Physical Science. The Friday evening meetings will commence on Jan. 23rd, when Professor Sir James Dewar will deliver a discourse on

the Coming of Age of the "Vacuum Flask." Other discourses will be given by Professor J. Norman Collie, Lord Rayleigh, Professor J. A. Fleming, Professor Sir J. J. Thomson, and Dr. A. Keith.

INTERNATIONAL CONGRESS ON THE CARE OF THE INSANE.—The committee of organisation of the Fifth International Congress on the Care of the Insane in Moscow (Jan. 8th–11th next) announces that in order to secure railway tickets at reduced prices it is necessary to present the member's card for the Congress, obtainable from the treasurer, Dr. Booneief, Moscou Preobrajensky Asylum. During the days preceding the Congress persons will wait at the Moscow railway stations in order to assist members of the Congress. These persons will be distinguished with coloured ribbons according to the foreign language they speak—English, white; French, red; German, blue; Italian, green. The committee has made arrangements with the leading Moscow hotels for cheap and comfortable lodgings for the members of the Congress. The secretary's address is Dr. Cetline, Krasnosselskaja 3, Moscow. The general secretary of the committee of organisation is Professor Bajenoff.

LONDON SCHOOL OF TROPICAL MEDICINE.—A donation of £5000 has been given by the Government of the Federated Malay States to the fund for the extension and development of the London School of Tropical Medicine.—The following are the examination results of the forty-third session of this school (October–December, 1913):—With distinction: W. H. Kauntze (Colonial Service), A. R. Paterson (Colonial Service), and M. F. Reaney (Captain, I.M.S.). Pass: D. T. Mitchell, R. F. Steel (Captain, I.M.S.), A. S. Burgess (Colonial Service), D. L. Graham (Captain, I.M.S.), J. R. Ridlon (United States Public Health Service), R. Drummond (Colonial Service), T. P. Fraser (Colonial Service), E. H. Griffin, R. G. Perkins, C. R. Bakhle (Major, I.M.S.), H. W. Furnival (Colonial Service), J. K. A. Hofmeyr, P. A. Clearkin (Colonial Service), E. J. H. Garstin (Colonial Service), A. I. Jackson, K. Ghosh, L. R. Sharples (Colonial Service), Miss J. Crozier, C. R. Avari, L. G. Fink, W. E. Masters, R. G. Ball (Colonial Service), Miss M. I. Balfour, J. R. Dodd (Colonel, A.M.S.), G. V. Fiddian (Colonial Service), C. S. Harwood, S. Shepheard, B. Sefton, D. S. Bryan-Brown, L. M. Bisvas, C. B. Mack, J. Atkinson (Colonial Service), and E. B. Pearson.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND CO., LIMITED, 44 and 45, Rathbone-place, Oxford-street, London.

Sanatoria for the Tuberculous, including a Description of Many Existing Institutions and of Sanatorium Treatment in Pulmonary Tuberculosis. By F. Rufenacht Walters, M.D., M.R.C.P., F.R.C.S., Joint Tuberculosis Officer to the Surrey County Council. Fourth edition. Entirely rewritten. Price 12s. 6d. net.

ARNOLD, EDWARD, London.

Ulcer of the Stomach. By Charles Bolton, M.D., D.Sc. Lond., F.R.C.P. Lond., Director of Pathological Studies and Research, and Lecturer in General Pathology in University College Hospital Medical School. Price 15s. net.

BAILLIÈRE, TINDALL, AND COX, London.

A Treatise on the Diseases of Women. For Students and Practitioners. By Palmer Findley, B.S., M.D., Professor of Gynecology, College of Medicine, State University of Nebraska. Price 30s. net.

BLACK, ADAM AND CHARLES, 4, 5, and 6, Soho-square, London, W.

Who's Who, 1914. Price 15s. net.
Who's Who Year-Book, 1914–15 Price 1s. net.
The Writers' and Artists' Year-Book, 1914. Edited by G. E. Mitton. Price 1s. net.
The Englishwoman's Year-Book and Directory, 1914. Edited by G. E. Mitton. Thirty-third Year of Issue. Price 2s. 6d. net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London.

Who's Who in Science (International), 1914. Edited by H. H. Stephenson. Price 10s. net.

CONSTABLE AND CO., LIMITED, London.

The Depot for Prisoners of War at Norman Cross, Huntingdonshire, 1796 to 1816. By Thomas James Walker, M.D., F.R.C.S., Fellow (Member of Council 1908–9) of the Royal Society of Medicine, Associate of the British Archæological Association. Price 10s. 6d. net.

GRIFFIN, CHARLES, AND CO., LIMITED, Exeter-street, Strand, London.

The Year-Book of the Scientific and Learned Societies of Great Britain and Ireland. Compiled from Official Sources. Thirtieth Annual Issue. Price 7s. 6d.

GULLICK, WILLIAM APPLEGATE, Government Printer, Sydney.

Australasian Medical Congress (formerly the Intercolonial Medical Congress of Australasia). Transactions of the Ninth Session held in Sydney, New South Wales, September, 1911. F. Antill Pockley, M.D., President. In two volumes. Published under the Direction of the Literary Committee. Price not stated.

HAZELL, WATSON, AND VINEY, LIMITED, 52, Long Acre, London, W.C.

Hazell's Annual for 1914. Edited by T. A. Ingram, M.A., LL.D. Twenty-ninth Year of Issue. Price 3s. 6d. net.

KARGER, S., Berlin.

Die Wassermannsche Reaktion, mit besonderer Berücksichtigung ihrer klinischen Verwertbarkeit. Von Dr. Harald Boas, Privatdozent an der Universität, I. Assistenzarzt am Rudolph Berghs-Hospital für dermatologische und venerische Krankheiten, Assistent am Statens Seruminstitut zu Kopenhagen. Mit einem Vorwort von Geh. Med.-Rat Prof. A. Wassermann. Zweite vermehrte und verbesserte Auflage. Price, paper, M.7.60; geb., M.8.80.

Die Geschwülste der Hautdrüsen. Von Prof. Dr. G. Ricker, Leiter, und Dr. Johannes Schwalb, Assistent, der pathologisch-anatomischen Anstalt der Stadt Magdeburg. Price M.10.

Die Gesche Gottfried. Eine kriminalpsychologische Studie. Von Dr. L. Schols, Nervenarzt, Direktor a.D. der Provinz. Irrenanstalt in Kosten. Price M.4.

Praktische Winke für die chlorarme Ernährung. Von Prof. Dr. H. Strauss, Direktor der inneren Abteilung des Jüdischen Krankenhauses in Berlin. Zweite, vermehrte und verbesserte Auflage. Price M.1.50.

Theorie und Praxis der Inneren Medizin. Ein Lehrbuch für Studierende und Aerzte. Von Dr. Erich Kindborg. (Drei Bände.) Dritter Band. Price, bound, M.13.

KIMPTON, HENRY, London. STENHOUSE, ALEXANDER, Glasgow.

A Practical Treatise on Medical Diagnosis. For Students and Physicians. By John H. Musser, M.D., LL.D. Sixth edition, revised. By John H. Musser, Jr., B.S. M.D., Instructor in Medicine in the University of Pennsylvania. Price 25s. net.

LEONARD, W. M., Boston.

Case Histories in Pediatrics. By John Lovett Morse, A.M., M.D., Associate Professor of Pediatrics, Harvard Medical School. Second edition, revised and enlarged. Price not stated.

LONDON AND COUNTIES PRESS ASSOCIATION, LIMITED, 39, King-street, Covent Garden, London, W.C.

The Medical Who's Who, 1914. Published annually. Price 10s. 6d. net.

MARCUS (A.) AND WEBER'S (E.) VERLAG (DR. JUR. ALBERT AHN), Bonn.

Lehrbuch der forensischen Psychiatrie. Von Prof. Dr. A. H. Hübner, Oberarzt der psychiatrischen und Nervenklinik in Bonn. Price, paper, M.26; bound, M.28.

Die Therapie an den Bonner Universitätskliniken. Herausgegeben von Prof. Dr. Rudolf Finkelnburg in Bonn. Price, paper, M.9.60; bound, M.10.60.

PUTNAM'S (G. P.) SONS, New York and London.

Text-Book of Anatomy and Physiology for Nurses. By Amy E. Pope, Instructor in the School of Nursing of the Presbyterian Hospital in the City of New York. Price 6s. net.

RIVERDALE PRESS, Brookline, Mass., U.S.A.

Transactions of the American Urological Association. Twelfth Annual Meeting at Boston, Massachusetts, April 15th, 16th, and 17th, 1913. Publication Committee: Hugh Cabot, Richard Frothingham O'Neil, and George Gilbert Smith. Price not stated.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.

The Illustrated Medical Dictionary. Pronunciation, Derivation, and Definition. By W. A. Newman Dorland, A.M., M.D., Member of Committee on Nomenclature and Classification of Diseases, of the American Medical Association. Seventh edition, revised and enlarged. Price 19s. net.

The Pocket Medical Dictionary. Edited by W. A. Newman Dorland, A.M., M.D. Eighth edition, revised and enlarged. Price 5s. net.

SCIENTIFIC PRESS, LIMITED, London.

The Mutilated Hand and the Workmen's Compensation Act, 1906. Having Special Reference to "Missing" Fingers. By J. J. Scanlan, L.R.C.S. & P. Edin., D.P.H. Price 2s. 6d. net.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. (Secretary, Dr. W. D. HAGGARD, Nashville, Tennessee, U.S.A.)

Transactions of the Southern Surgical and Gynecological Association. Vol. XXV. Twenty-fifth Session. Held at Old Point Comfort, Virginia, Dec. 17th, 18th, and 19th, 1912. Edited by W. D. Haggard, M.D. Price not stated.

UNIVERSITY OF LONDON PRESS, LIMITED, London. Published for the University of London Press, Limited, by HODDER AND STOUGHTON, Warwick-square, E.C.

London Medical Publications. Mental Diseases. A Text-book of Psychiatry for Medical Students and Practitioners. By R. H. Cole, M.D. Lond., M.R.C.P., Physician for Mental Diseases to St. Mary's Hospital. Price 10s. 6d. net.

UNIVERSITY PRESS, Cambridge. CAMBRIDGE UNIVERSITY PRESS (C. F. CLAY, Manager), Fetter-lane, London, E.C.

The Purpose of Education. An Examination of the Education Problem in the Light of Recent Psychological Research. By St. George Lane Fox Pitt, Member of the Permanent Executive Council of the International Moral Education Congress and Member of the Council of the Society for Psychical Research. Price 2s. 6d. net.

WHITAKER, J., AND SONS, LIMITED, 12, Warwick-lane, London, E.C.

An Almanack for the Year of Our Lord 1914. By Joseph Whitaker, F.S.A. ("Whitaker's Almanack.") Price, paper cover, 583 pages 1s.; half bound, 904 pages, 2s. 6d.

Whitaker's Peerage, Baronetage, Knightage, and Companionage for the Year 1914. Price 5s.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BARCLAY, A. E., M.D. Cantab., M.R.C.S., L.R.C.P. Lond., has been re-appointed Medical Officer of the Radiography and Electricity Department at the Manchester Royal Infirmary.

BOYD, FRANCIS D., C.M.G., M.D. Edin., has been appointed Chief Medical Officer to the Standard Life Assurance Company.

CLARKE, RICHARD C., M.B., Ch.B. Bristol, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Bristol Royal Infirmary.

COGGAN, T., M.B., Ch.B. Vict., has been reappointed an Anæsthetist at the Manchester Royal Infirmary.

CRICHTON, C. S., M.D. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Redhill District of the county of Surrey.

CROOM, D. HALLIDAY, M.D. Edin., has been appointed Assistant Medical Officer to the Standard Life Assurance Company.

CURRIE, D. W., M.D. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Dollar District of the county of Clackmannan.

DUFFETT, H. A., F.R.C.S. Eng., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Sidcup District of the county of Kent.

FRASER, Sir THOMAS R., M.D. Edin., has been appointed Consulting Physician to the Standard Life Assurance Company.

GRAHAM, JOHN H. PORTEUS, M.R.C.S., L.R.C.P. Lond., has been appointed an Assistant Tuberculosis Physician to the King Edward VII. Welsh National Memorial.

HARKIN, T., M.B. B.Ch. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Moville District of the county of Donegal.

HOOLE, JOHN, M.R.C.S., L.S.A., has been appointed Medical Officer to the Rathbourne Convalescent Home, Parwich.

LLOYD, DAVID, M.B., C.M. Glasg., has been appointed Medical Officer of Health of the Borough of Denbigh.

LOVE, ANDREW, M.D. Glasg., has been appointed Tuberculosis Officer and Medical Superintendent of the Lanarkshire Burghs Sanatorium.

LOVEDAY, G. E., M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been reappointed Director of the Clinical Laboratory at the Manchester Royal Infirmary.

MARSHALL, COLE, M.D. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Western Ophthalmic Hospital.

MARSHALL, ROBERT, M.B., B.Ch., B.A.O. Belf., has been appointed Resident Medical Officer to the National Hospital for Diseases of the Heart, London, W.

MATHISON, G. C., M.D. Melb., has been appointed Sub-Director of Clinical Laboratories at the Melbourne Hospital.

MEYER, FELIX, has been appointed Lecturer on Obstetrics and Gynæcology in the University of Melbourne.

MURRAY, W., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Clackmannan District of the county of Clackmannan.

PATERSON, M. W., M.R.C.S., has been appointed Medical Officer at the Central Branch of the Manchester Royal Infirmary.

PERN, L., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Whitby District of the county of York.

SHEEHAN, D. T., M.B., B.Ch.R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Milltown District of the county of Kerry.

STORAR, W. M., L.R.C.P. & S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Ramsgate District of the county of Kent.

WARD, J. F., M.B., Ch.B. Vict., has been reappointed Resident Medical Officer at the Royal Infirmary, Manchester.

WILLIAMS, E. C., M.D. Lond., F.R.C.S. Edin., has been appointed Medical Officer of Health and School Medical Officer by the Brecknock County Council.

WILLIAMS, GWYNNE, M.S. Lond., F.R.C.S. Eng., has been appointed Surgeon to Out-patients at the Great Northern Central Hospital.

WILSON, S. R., M.B., B.S. Lond., F.R.C.S. Edin., has been reappointed an Anæsthetist at the Manchester Royal Infirmary.

WOOLF, A. E. MORTIMER, M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Demonstrator of Anatomy at King's College.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ALNWICK INFIRMARY.—House Surgeon, unmarried. Salary £140 per annum, with board and apartments.

BATH, ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary £120 per annum, with lodging, board, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon. Salary £100 per annum, with board and laundry.

BOOTLE BOROUGH HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Officer, unmarried. Salary £150 per annum, with board, washing, and apartments.

BRADFORD POOR-LAW UNION HOSPITAL AND WORKHOUSE.—Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with rations, apartments, and laundry.

BRISTOL, COSSHAM MEMORIAL HOSPITAL, Kingswood.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

BRISTOL ROYAL INFIRMARY.—Honorary Medical Registrar.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—House Surgeon for Ophthalmic and Ear, Nose, and Throat Departments. Salary £100 per annum, with board, residence, and laundry. Also Resident Surgical Officer.

CARMARTHEN, JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary £180 per annum, with board, lodging, washing, &c.

CHESTER, COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

CITY OF LONDON LYING-IN-HOSPITAL, City-road, E.C.—Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, lodging, and washing.

CLINICAL RESEARCH ASSOCIATION, LIMITED, Watergate House, York Buildings, Adelphi, W.C.—Assistant Director of the Laboratories. Salary £250 per annum.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. Also House Surgeon. Salary £100 per annum in each case, with board, washing, and residence.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—House Physician. Salary £110 per annum, with residence, board, laundry, and attendance.

DOUGLAS, ISLE OF MAN, NOBLE'S HOSPITAL.—Resident House Surgeon, unmarried. Salary £100 per annum, with board and washing.

DOWNPATRICK, DOWN DISTRICT LUNATIC ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £170 per annum, with apartments, board, washing, attendance, &c.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £100 per annum, with residence, board, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £65 per annum, with board and washing.

ESSEX, ADMINISTRATIVE COUNTY OF.—Two Tuberculosis Officers. Salary £500 per annum each.

EXETER, CITY OF.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £250 per annum.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

FLINT, COUNTY OF, EDUCATION COMMITTEE.—Dental Surgeon. Salary £250 per annum.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, W.C.—Pathologist. Salary £100 per annum.

GLASGOW, HAWKHEAD ASYLUM, Crookston.—Junior Assistant Medical Officer. Salary £200 per annum, with apartments, board, and laundry.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Surgeon.

GREENWICH UNION INFIRMARY AND WORKHOUSE.—Junior Assistant Medical Officer. Salary £125 per annum, with apartments, rations, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

HELLINGLY, EAST SUSSEX COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, washing, and attendance.

HEREFORDSHIRE COUNTY COUNCIL.—Clinical Tuberculosis Medical Officer. Salary £300 per annum.

HULL ROYAL INFIRMARY.—Casualty House Surgeon for six months. Salary at rate of £80 per annum, with board and lodging.

HULL AND SCULCOATES DISPENSARY.—Resident Surgeon. Salary £220 per annum, with house, gas, and coals.

HUNTINGDONSHIRE COUNTY COUNCIL.—Female Assistant County Medical Officer and Assistant School Medical Officer. Salary £250 per annum.

INFECTIOUS HOSPITALS SERVICE OF THE METROPOLITAN ASYLUMS BOARD.—Junior Assistant Medical Officer, unmarried. Salary £180 per annum, with board, lodging, and washing.

IPSWICH, EAST SUFFOLK HOSPITAL.—House Surgeon and House Physician. Salaries £80 per annum, with board, apartments, and laundry.

LANCASHIRE EDUCATION COMMITTEE.—Female School Medical Inspector. Salary £350 per annum.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—Two House Surgeons. Salary at rate of £50 per annum.

LEEDS OPEN-AIR SANATORIUM, Gateforth, near Selby.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

LEEDS UNIVERSITY, FACULTY OF MEDICINE.—Research Assistant in Department of Pathology. Salary £150 per annum.

LEICESTER BOROUGH MENTAL HOSPITAL.—Second Assistant Medical Officer and Pathologist, unmarried. Salary £200 per annum, all found.

LIVERPOOL CITY INFECTIOUS DISEASES HOSPITAL AND SANATORIUM FOR TUBERCULOSIS.—Assistant Resident Medical Officer, unmarried. Salary £140 per annum, with board, washing, and lodging.

LIVERPOOL PORT SANITARY AUTHORITY.—Assistant Medical Officer. Salary £350 per annum.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £75 per annum, with board, residence, and laundry.

LOCK HOSPITAL, Dean-street and Harrow-road.—Anæsthetist.

LONDON HOMŒOPATHIC HOSPITAL, Great Ormond-street and Queen-square, Bloomsbury, W.C.—Assistant Pathologist. Salary £50 per annum. Also Assistant Surgeon for Diseases of the Eye.

LONDON TEMPERANCE HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and laundry.

MACCLESFIELD GENERAL INFIRMARY.—House Surgeon. Salary £125 per annum, with board and residence.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury (Out-patients' Department), Gartside-street, Manchester.—Visiting Surgeon to Throat, Nose, and Ear Department. Salary £25 per annum.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Surgeon and Assistant House Surgeon for six months. Salary at rate of £60 and £40 per annum respectively, with board and washing. Also Junior Dental Surgeon.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Honorary Radiographer, Surgeon Laryngologist, and Assistant Physician. Also House Physician at Northwood. Salary £75 per annum, with board, residence, and washing.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Pathologist. Salary £250 per annum.

NORTH KENSINGTON SCHOOL TREATMENT CENTRE.—Medical Officer. Salary £50 per annum.

NOTTINGHAM CHILDREN'S HOSPITAL.—Female House Surgeon for six months. Salary at rate of £100 per annum, with apartments, board, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Also Assistant. Salary £220 and £180 per annum respectively, with apartments, &c.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, residence, and laundry.

NOTTS COUNTY COUNCIL. RANSOM SANATORIUM, Sherwood Forest, Mansfield.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

PERTH DISTRICT ASYLUM.—Assistant Physician. Salary £150 per annum and all found

PORTSMOUTH, ROYAL PORTSMOUTH HOSPITAL.—Pathologist. Salary £150 per annum.

PRESTON, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, and washing.

ROCHDALE INFIRMARY.—Second House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Clinical Assistants in Out-patients' Department.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Assistant Physician.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Junior Resident Medical Officer for six months. Salary at rate of £70 per annum, with residence, board, and laundry.

ST. THOMAS'S HOSPITAL.—Ophthalmic House Surgeon.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c.

SHEFFIELD, CHILDREN'S HOSPITAL, Western Bank.—House Surgeon. Salary £100 per annum, with board and residence.

SHOREDITCH INFIRMARY, Hoxton-street, N.—Junior Assistant Medical Officer Salary £150 per annum, with board, apartments, and washing.

SOMERSET COUNTY COUNCIL.—Assistant School Medical Officer. Salary £275 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—Third House Surgeon. Salary £125 per annum, with board, washing, and attendance.

TAUNTON, SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer, unmarried. Salary £300 per annum, with apartments, board, washing, attendance, &c.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician and House Surgeon for six months. Salary £40, with board, lodging, and laundry.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Pathologist and Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

WARWICK COUNTY ASYLUM, Hatton, near Warwick.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and laundry.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

WILLESDEN URBAN DISTRICT COUNCIL.—Assistant Medical Officers of Health and Assistant School Medical Officers (two). Salary £300 per annum each.

WILTS COUNTY ASYLUM, Devizes.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, attendance, and laundry.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Salary £80 per annum.

WORCESTERSHIRE COUNTY COUNCIL.—Two Assistant Tuberculosis Officers. Salary £300 per annum.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £140 per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Sowerby Bridge, in the county of York; at Warminster, in the county of Wilts; and at Worthing, in the county of Sussex.

*** The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of THE LANCET.

Births, Marriages, and Deaths.

BIRTHS.

BECK.—On Dec. 21st, 1913, at Bromyard, the wife of Ashton Beck, M.B., of a daughter.

DEANE-BUTCHER.—On Dec. 24th, 1913, at Pittsworth, Queensland, to Dr. C. B. and Mrs. Deane-Butcher, a son.

GUNN.—On Dec. 18th, 1913, at Neston, Cheshire, the wife of George Gunn, M.D., F.R.C.S.E., of a son.

DEATHS.

FLEMING.—On Dec. 22nd, 1913, suddenly, Alexander John Fleming, M.D.

THORNTON.—On Dec. 28th, 1913, at Berkeley Lodge, Trinity-square, Margate, Bertram Thornton, M.R.C.S., L.R.C.P., in his fifty-seventh year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

NOTES ON DIARIES.

A GOOD diary is essential to most people, and especially to medical practitioners, and both Messrs. Cassell and Co. and Messrs. John Walker and Co. provide a wide selection suitable to all tastes and for all purposes. Both firms include with their diaries an insurance coupon for £1000, the coupon being made valid on payment of a small registration fee. So excellent are the productions of these firms that the only difficulty in making a selection is the wide choice which is given to the purchaser. Messrs. Cassell and Co. publish the "Letts's Diaries and Calendars," the sizes varying from two to three inches square up to quarto and foolscap size interleaved scribbling diaries. The bindings are of leather or cloth according to price, which ranges from 6*d.* upwards. They are ruled for one day to a page, two days to a page, seven days to a page, or a week in an opening.

We call special attention to the two following diaries:—

Letts's Medical Diary for 1914, which, in addition to the usual postal and general information and almanacs for 1913 and 1915 as well as for the current year, contains a great deal of matter useful to medical men. The pages of the diary are ruled on the plan of a week to an opening, with spaces for patients' names, visits, and ledger folio. Ruled pages are provided for accounts and for various professional engagements. The diary can be had in two sizes, ruled respectively for 54 or 108 patients, and the price varies, according to the binding, from 2*s.* 6*d.* to 4*s.* and from 4*s.* to 5*s.* 6*d.* respectively.

Letts's Nurses' Report Book and Diary for 1914 shows in the diary a week to an opening, and contains an almanac and general information. There are also double-page ruled openings with columns for recording the various duties and observations incidental to nursing. Blank lettered pages are also provided for an index. The price is 2*s.*, neatly bound in red cloth.

Messrs. John Walker and Co.'s large selection includes their convenient and well-known loose-leaf diaries, made in different sizes, bound in morocco lined with leather, and with or without pockets. These diaries are suitable to all purposes, and will be found particularly useful by medical men and students (prices 2*s.* 9*d.* to 9*s.* 9*d.*). Re-fills can be obtained at a cheap rate. The other diaries issued by this firm in sizes from 2 inches by 3 inches and upwards, and with one or two days or a week to a page, or a week to an opening, are bound in cloth or leather of varying kinds according to the price (9*d.* to 8*s.*).

Both Messrs. Cassell and Co. and Messrs. John Walker and Co. also publish some useful wall calendars.

The Cambridge Pocket Diary, 1913-1914 (London and Cambridge: the University Press), is unique as a diary, inasmuch as it has been arranged for the academical year, and therefore covers in part two calendar years. It is in size suitable for the waistcoat pocket, and contains information of interest to Cambridge men and also to others in academical and legal circles. The price, according to binding, varies from 1*s.* to 2*s.* 6*d.* net

The Cambridge Diary for the Academic Year, 1913-1914, is also issued by the same publishers, price 1*s.*, in block form, each sheet measuring 8 inches by 10 inches. Ample space is afforded for manuscript notes or engagements.

The Wellcome Photographic Exposure Record and Diary, 1914 (Burroughs Wellcome and Co. Pp. 280. Price 1*s.*), besides being a useful diary, forms a concise guide to photography. Both the beginner and the expert will find the contained information, as well as the ingenious exposure calculator included with the book, of great value. Three editions of the diary are published: one for the northern hemisphere, one for the southern, and one for the United States of America.

Amateur Gardener's Diary and Dictionary (London: Office of *Garden Life*. Pp. 277. Price 1*s.*) is published in a stiff paper cover, and is a handy calendar and guide for gardeners. It contains, in addition to a useful dictionary of gardening, notes on the weather and the work to be done in the garden and greenhouse during each week of the year.

The Live Stock Journal Almanack, 1914 (London: Vinton and Co., Limited. Pp. 344. Price 1*s.*; cloth 2*s.*), contains, besides the diary and breeders' table and the usual general information, articles of interest to stock-raisers, with much information about stock, agricultural societies, fairs,

and a breeders' directory. Articles on Anæsthesia for Animals, by Harold Leeney, M.R.C.V.S., and Insect Pets and Live-stock, by Edward C. Ash, M.R.A.C., will be of interest to veterinary surgeons.

Wright's Improved Physicians' and Surgeons' and Consultants' Visiting List, compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S. (Bristol: John Wright and Sons, Limited; London: Simpkin, Marshall, and Co.), in addition to the usual postal and general information, contains ruled pages for the visiting list, journal, and cash account, arranged in a manner to economise both space and time, as well as for professional engagements, notifications, vaccinations, motor expenses, and so forth. There is also a variety of tables giving such information as the professional man may at times require at a moment's notice. The *Visiting List* is bound in leather, with pockets in the covers and a pencil in the fold of the flap. It is issued in two forms—as a yearly diary and as a book which may be commenced at any time and used continually until filled. The price of the first form varies from 5*s.* to 7*s.*, according to the number of patients' names it will accommodate (40 to 240). The second form is published at 5*s.* 6*d.*

MARTIAL AND MEDICINE.

To the Editor of THE LANCET.

SIR,—It has for over 15 years been one of my most fascinating amusements to seek out and translate extracts from the classical authors, both Greek and Latin (and occasionally also from mediæval French and Latin writers), passages having interest from a medical point of view, quite a number of which have at various times been published. I need scarcely refer, therefore, to my delight in reading Dr. Raymond Crawfurd's article on Martial and Medicine in THE LANCET of Dec. 6th. From Martial I have one not referred to by Dr. Crawfurd. It is I. 19:—

Si memini, fuerant tibi quattuor, Aelia, dentes;
Expulit una duos tussis et una duos.
Iam secura potes totis tussire diebus;
Nil istic quod agat tertia tussis habet.

If I remember aright, your teeth were but twice two in number.
Two you spat out in a cough; another cough robbed you of two.
Now you may cough all day long with a mind that no fears can encumber,
For surely 'tis clear as can be there is nought for a third cough to do.

I venture also to append renderings of two of the passages quoted by Dr. Crawfurd. The first is of the Epigram to Symmachus (V., 9), and was published five or six years ago in the *Boston Medical and Surgical Journal*:—

When, out of sorts, I send an urgent call,
You come forthwith, good Symmachus, with all
Your train of students, quite a hundred strong.
Your own examination they prolong
A hundred times with hands Aquilo's blast
Has frozen stiff. And thus it comes at last
That while before no fever I endured,
'Tis of a fever I must now be cured.

The second of that to Aulus (VI., 78), published still further back in the *New York Medical Journal*:—

Phryx, good friend Aulus, of one eye had lost
The use, and in the other was dim-sighted.
His doctor, Heras, said, "Count well the cost
Of drinking; if you drink, your vision's blighted."
Phryx, smiling, bade his eye a mock farewell,
And ordered flagons deep as quick as winking.
One after one. Shall I the sequel tell?
While Phryx the wine, the wine his sight, was drinking.

Finally, as your correspondent Mr. Edwin A. Eade (THE LANCET, Dec. 13th) did not send a translation of the Epigram on Zoilus (II., 16), may I add this?

So Zoilus is sick abed, and with a fever too!
His coverlets have caused it. Were he well
What would his scarlet trappings and his Nile couch find to do?
What story dyes from fragrant Sidon tell?
How could he, save by illness, all his opulence display?
To get well the way is easy to divine—
The doctors cannot help him; let him send them all away
And exchange his gorgeous coverings for mine.

I am, Sir, yours faithfully,
Dec. 30th, 1913. KENNETH W. MILLICAN.

THE SMALLEST MAN IN THE WORLD.

Mr. John William White, who has been described "as the shortest man in the world," died at Southend-on-Sea, Essex, on Dec. 26th, 1913. He was 53 years old, and only 21 inches in height, and was thus shorter than "General" Tom Thumb. A portrait of Mr. White appeared in the *Daily Mirror* of Dec. 29th, and those who wish to make comparisons with Tom Thumb (whose real name was Charles S. Stratton, and who is said to have been born at Bridgeport, Connecticut, America, on Jan. 11th, 1832) will find a portrait of him and his wife (*née* Warren) in THE LANCET of June 30th, 1900, p. 1868. An account of Tom Thumb's life in London and the lives of other dwarfs will be found in a most interesting book entitled "Giants and Dwarfs," by Edward J. Wood, published by Richard Bentley, New Burlington-street, London, in 1868.

ASTROLOGY IN MEDICINE.

To the Editor of THE LANCET.

SIR,—I am loth to trespass again on your valuable space, but with your kind permission I wish to express my regret to Dr. Mercier that I misunderstood the following sentences found in the excellent abstract of his lectures given in THE LANCET of Nov. 29th (p. 1527):—

"It is interesting to carry our minds back with a view to finding how the system originated and how it was maintained. The first was explained by the overwhelming power of authority, the last by the geocentric belief that was overthrown by Copernicus."

I considered, not very unnaturally, that in the last 11 words of that extract it was implied that Copernicus was credited with the overthrow of astrology. Dr. Mercier having now declared that he did not call it an argument, I withdraw my unfortunate statement that he did.

I should like to be permitted to state, in reply to Dr. Mercier's satirical remarks on coincidences, that I have always understood that the philosophical law is that when coincidences constantly recur with such regularity and frequency as to remove them from the confines of chance, they prove that the two things which coincide are either cause and effect or the result of a common cause. If so, then by observing a long series of coincidences we may be able to discover a natural law. 1345 was, I believe, a year of pestilence. It may have been that Black Death first appeared in 1346, in Europe, Asia, and Africa—a veritable pandemic. Even so, although it was the year after the occurrence of that rare conjunction of Saturn, Jupiter, and Mars—attended by Neptune—in the sign Aquarius, it should be remembered that Saturn takes about two years and a half to pass through a sign of the zodiac—his period being 29½ years. So that his deleterious action on the atmosphere was still exerted in 1346. Bacon (Lord Verulam) observed that the influence of Saturn "comes slowly into operation."

I will conclude with quoting the declaration of the really great Kepler that: "A most unfailing experience of the excitement of sublunary natures by the conjunctions and aspects of the planets has instructed and compelled my unwilling belief." I am, Sir, yours faithfully,

Dec. 22nd, 1913. ALFRED J. PEARCE.

*** This correspondence now ceases.—ED. L.

"AN OPERATING THEATRE IN PRIVATE PRACTICE."

To the Editor of THE LANCET.

SIR,—In regard to the book published by us under the above title for Mr. Whiteford, in response to requests a Supplement containing a plan and two photographs has now been prepared. This is supplied gratis to purchasers of the book, to whom, so far as their names and addresses can be ascertained, copies have been sent. If those purchasers who have not received the Supplement will kindly communicate with us, we shall be pleased to remedy the omission.

We are, Sir, yours faithfully,
45, Pall Mall, S.W., Jan. 1st, 1914. HARRISON AND SONS.

INCOME-TAX DEMANDS.

To the Editor of THE LANCET.

SIR,—The collectors of taxes are now making their annual distribution of demand notes for the current year. Before paying the amount demanded your readers should be careful to ascertain that the amount is correct, and that they have been allowed all the deductions to which they are entitled. Particularly they should see that they are not paying inhabited house duty and land-tax for which they are not liable, as it is generally impossible to obtain any repayment of these duties. Repayment of income-tax overpaid can now be claimed for the three years ended April 5th last; this applies, of course, more especially to income derived from investments, house property, and annuities, and also claims in respect of life assurance premiums and the allowances for children under 16. Yours faithfully,

TAX ADJUSTMENT (SCARFF'S) AGENCY.

386, Oxford-street, London, W., Dec. 27th, 1913.

DR. STEEVENS' HOSPITAL, DUBLIN.

To those having special connexions with Dr. Steevens' Hospital, Dublin, Dr. T. Percy C. Kirkpatrick's *Calendar of Anniversaries* will doubtless have interest. Each day of each month has some item appended to it from one of

the many years in the hospital's history. Naturally the bequests of Dr. Steevens and of Madame Grissel Steevens, his sister, together with other notable donations, appear, as do also appointments and resignations of distinguished members of the medical staff and governing body. Many items, however, seem rather puerile, and in some cases even unkind. Why chronicle the fact that a certain nurse was reported for neglect of duty, or that others were ordered to be discharged, or were dismissed the hospital for misconduct? On June 17th, 1867, we are told: "Mr. Robert McDonnell, surgeon, removed a tumour the size of an orange from the left orbit of a patient in hospital." Are we to understand that that is the only operation, or the most noteworthy, that was ever performed there? On Nov. 19th, 1757, there were "78 sick persons in the hospital." Is that the largest or the smallest number ever recorded? If not, what is peculiar about it? The idea of the *Calendar* is of interest, but we suggest increased discrimination in its carrying out.

BURBERRYS' SALE.

THE columns of THE LANCET are not usually concerned with "sales," but the many medical men who affect "Burberrys" in their several forms—weatherproofs, topcoats, lounge suits, &c.—may be interested in knowing that during the month of January the rest of the 1913 stock will be on sale at half the usual prices. Catalogues can be had from Burberrys, Haymarket, London, S.W.

J. E. H.—Dermatologists are not all agreed as to the contagiousness of psoriasis. Those who believe it to be contagious admit that this contagiousness is slight, and a predisposition to the disease seems to be necessary. With regard to treatment, several advances have been made within recent years, and the claim has been made that it is always curable. But much perseverance is needed, for the tendency to return is very great. The treatment is certainly not so hopeless as our correspondent appears to think.

D. S. B.—We do not recommend practitioners to non-medical readers.

ERRATUM.—In the Index to Vol. II. of THE LANCET for 1913, which was published last week, a paper at the International Congress on Sleep, &c., should have been credited to Dr. Robert Armstrong-Jones and not to Mr. R. Jones.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

THURSDAY.

SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—T. Watts Eden, C. Hubert Roberts): at 8 P.M.

Specimens:
Dr. W. S. A. Griffith: Primary Epithelioma of the Vagina.
Dr. Drummond Maxwell: Lipomatous Change in a Fibroid Tumour.
Dr. T. W. Eden: Chorion-epithelioma of the Uterus with Bilateral Lutein Cysts.

Short Communications:
Dr. Drummond Maxwell: Case of Congenital Sacro-coccygeal Tumour.
Mr. Hamilton Whiteford introduced by Dr. Lockyer): Case of Double Ovariotomy with Unusual Post-operative Phenomena.

Paper:
Mr. Douglas G. Reid (introduced by Dr. Macnaughton-Jones): The Genito-mesenteric Fold of Peritoneum, its Relations and its Functions (with lantern demonstration).

FRIDAY.

SECTION OF LARYNGOLOGY (Hon. Secretaries—E. A. Peters, Cecil I. Graham): at 4 P.M.

Cases:
Will be shown by Dr. Lambert Lack, Dr. W. H. Kelson, Mr. E. D. Davis, Mr. Norman Patterson, Dr. Andrew Wylie, Dr. E. A. Peters, and others.

CLINICAL SECTION (Hon. Secretaries—W. Essex Wynter, Thomas H. Kellock): at 8.30 P.M.

Cases:
Mr. Sidney Boyd: Splenectomy for Chronic Acquired Acholuric Jaundice with Splenomegaly.
Dr. H. D. Rolleston and Mr. E. J. Boyd: Addison's Disease in a Boy.
Dr. Bernard Myers: Osteitis Deformans.
Mr. W. Gordon Taylor: Osteitis Deformans: Operation for Fractured Femur.
And other Cases.

RÖNTGEN SOCIETY, Middlesex Hospital, Mortimer-street, W.C.

MONDAY.—8.15 P.M., Paper: Dr. J. Clunet (Paris): Histological Changes produced by X Rays on Animal Tissues Destructive and Hyperplastic Action of X Rays. Practical Consequences in Regard to Radiotherapy and Protection of the Radiologist. (Illustrated by lantern slides.)

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Address:—Dr. C. R. Box: Pellagra (with lantern demonstration).

UNITED SERVICES MEDICAL SOCIETY, Royal Naval Medical College, Greenwich.

THURSDAY.—5 P.M., Surgeon E. L. Atkinson, R.N.: Antarctic Experiences.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY, Board Room of the Great Northern Central Hospital, Holloway-road, N.

THURSDAY.—9 P.M., Paper:—Dr. W. Hunter: Oral Sepsis in Relationship to Anæmia.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—College opens.

TUESDAY.—4 P.M., Dr. J. Galloway: Clinique (Medical). 5.15 P.M., Lecture:—Mr. H. L. Whale: Some Factors in Nasal Accessory Sinus Disease.

WEDNESDAY.—3 P.M., Mr. P. Turner: Clinique (Surgical) 5.15 P.M., Lecture:—Dr. W. Wingrave: Examination of Sputum.

THURSDAY.—4 P.M., Dr. C. O. Hawthorne: Clinique (Medical). 5.15 P.M., Lecture:—Dr. D. Forsyth: The Diagnosis of Convulsive and other Involuntary Movements.

FRIDAY.—4 P.M., Mr. K. Campbell: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.30 P.M., Special Lecture:—Dr. T. Lister: Some Complications of Pulmonary Phthisis.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. H. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery 4.30 P.M., Special Lecture:—Mr. H. Curtis: Points in the Treatment of Appendicitis and General Peritonitis, with Special Reference to the Best Methods of Drainage and the Cure of Troublesome Sinuses.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Bigg: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 3.30 P.M., Special Lecture:—Dr. R. Wells: Aortic Regurgitation.

FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. H. Bickerton Eye.—10 A.M., Col. Barry: Radiography.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

April 14th–18th (New York).—Fourth Congress of the International Surgical Society.
" 20th–23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.
May 1st–Nov. 1st (Lyons).—International Town Life Exhibition.
July 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1913 were given in THE LANCET of Dec. 27th, 1913.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1913 will be ready shortly. Bound in cloth, gilt lettered, price 16*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 31st, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Dec. 25	30·23	W.	...	45	44	31	34	35	Fine
,, 26	30·10	S.W.	0·17	59	52	34	42	46	Cloudy
,, 27	29·78	S.W.	...	59	44	42	43	45	Cloudy
,, 28	29·41	S.W.	...	55	38	35	34	36	Cloudy
,, 29	29·53	N.W.	...	40	38	32	32	34	Overcast
,, 30	30·00	N.	...	54	37	32	31	33	Fine
,, 31	30·46	N.E.	...	49	37	31	—	32	Fine

The following journals, magazines, &c., have been received:—L'Hygiène, Medical Journal of South Africa, South African Medical Record, Bristol Medico-Chirurgical Journal, Canadian Medical Association, St. George's Hospital Gazette, Revista de Chirurgie, Archiv Schiffs- und Tropen-Hygiene, Interstate Medical Journal, Office International d'Hygiène Publique, Journal of Nervous and Mental Disease, Archives of Internal Medicine, American Journal of Medical Sciences, American Practitioner, Surgery, Gynæcology and Obstetrics, Edinburgh Medical Journal, &c.

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[*Acknowledgments continued on next page.*

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